TRAXXAS

OWNERS MANUAL

RUSTLER VXL BRUSHLESS

MODEL 37076-1

STAMPEDE VXL BRUSHLESS

MODEL 36076-1

BANDIT VXL BRUSHLESS

MODEL 24076-1

Velineon

EXTREME BRUSHLESS POWER SYSTEM

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Thank you for purchasing a Traxxas electric model equipped with the new Velineon® Brushless Power System. This manual covers the Rustler® VXL Stadium race truck, the Bandit™ VXL buggy and the Stampede® VXL monster truck. The Velineon Power System lets you experience the best that brushless motor technology has to offer. Incredible speed, efficient operation, long run times, and low-maintenance operation are just some of the benefits. No matter which model you have selected, we are confident you will be rewarded with high-speed performance in a durable, long-lasting product.

This manual contains the instructions you will need to operate and maintain your model so that you can enjoy it for years to come. We want you to feel confident that you own one of the best-performing models in the market and that it is backed by a team of professionals who aim to provide the highest level of factory support possible. Traxxas models are about experiencing total performance and satisfaction, not just with your model, but also with the company that stands behind it.

We know you're excited about getting your new model on the road, but it's very important that you take some time to read through the Owner's Manual. This manual contains all the necessary set-up and operating procedures that will allow you to unlock the performance potential that Traxxas engineers designed into your model. Also be sure to read and follow the precautions and warnings in this manual and on any labels or tags attached to your model. They are there to educate you on how to operate your model safely and also get maximum life and performance from your model.

Traxxas Support

Traxxas support is with you every step of the way. Refer to the next page to find out how to contact us and what your support options are.

Quick Start

This manual is designed with a Quick Start path that outlines the necessary procedures to get your model up and running in the shortest time possible. If you are an experienced R/C enthusiast you will find it helpful and fast. Be sure and read through the rest of the manual to learn about important safety, maintenance, and adjustment procedures. Turn to page 9 to begin.

Even if you are an experienced R/C enthusiast, it's important to read and follow the procedures in this manual.

Thank you again for going with Traxxas. We work hard every day to assure you receive the highest level of customer satisfaction possible. We truly want you to enjoy your new model!

FCC Compliance

This device contains a module that complies with the limits for a Class B digital device as described in part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The limits for a Class B digital device are designed to provide reasonable protection against harmful interference in residential settings. This product generates, uses and can radiate radio frequency energy, and, if not operated in accordance with the instructions, may cause harmful interference to radio communications. The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada, Industry Canada (IC)

This Class B digital apparatus complies with Canadian ICES-003 and RSS-210. This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: This device may not cause interference, and This device must accept any interference, including interference that may cause undesired operation of the device.

Radio Frequency (RF) Exposure Statement

This equipment complies with radio frequency exposure limits set forth by FCC and Industry Canada for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body or bystanders and must not be co-located or operating in conjunction with any other antenna or transmitter.

Carefully read and follow all instructions in this and any accompanying materials to prevent serious damage to your model. Failure to follow these instructions will be considered abuse and/or neglect.

Before running your model, look over this entire manual and examine the model carefully. If for some reason you decide it is not what you wanted, then do not continue any further. **Your hobby dealer absolutely cannot accept a model for return or exchange after it has been run.**

Warnings, Helpful Hints, & Cross-References

Throughout this manual, you'll notice warnings and helpful hints identified by the icons below. Be sure to read them!

An important warning about personal safety or avoiding damage to your model and related components.

Special advice from Traxxas to make things easier and more fun.

Refers you to a page with a related topic.

SUPPORT

If you have any questions about your model or its operation, call the Traxxas Technical Support line toll-free at:

1-888-TRAXXAS (1-888-872-9927)*

Technical support is available Monday through Friday from 8:30am to 9:00pm central time. Technical assistance is also available at Traxxas.com/support. You may also e-mail customer support with your question at support@Traxxas.com. Join thousands of registered members in our online community at Traxxas.com.

Traxxas offers a full-service, on-site repair facility to handle any of your Traxxas service needs. Maintenance and replacement parts may be purchased directly from Traxxas by phone or online at BuyTraxxas.com. You can save time, along with shipping and handling costs, by purchasing replacement parts from your local dealer.

Do not hesitate to contact us with any of your product support needs. We want you to be thoroughly satisfied with your new model!

SAFETY PRECAUTIONS

All of us at Traxxas want you to safely enjoy your new model. Operate your model sensibly and with care, and it will be exciting, safe, and fun for you and those around you. Failure to operate your model in a safe and responsible manner may result in property damage and serious injury. The precautions outlined in this manual should be strictly followed to help ensure safe operation. You alone must see that the instructions are followed and the precautions are adhered to.

Important Points to Remember

- Your model is not intended for use on public roads or congested areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
- Never, under any circumstances, operate the model in crowds of people. Your model is very fast and could cause injury if allowed to collide with anyone.
- Because your model is controlled by radio, it is subject to radio interference from many sources that are beyond your control. Since radio interference can cause momentary losses of radio control, always allow a safety margin in all directions around the model in order to prevent collisions.
- The motor, battery, and speed control can become hot during use. Be careful to avoid getting burned.
- Don't operate your model at night, or anytime your line of sight to the model may be obstructed or impaired in any way.
- **Most importantly, use good common sense at all times.**

Batteries and Battery Charging

Your model uses rechargeable batteries that must be handled with care for safety and long battery life. Make sure to read and follow all instructions and precautions for charging and maintaining the batteries. It is your responsibility to charge and care for the battery packs properly. In addition to your battery and charger instructions, here are some more tips to keep in mind.

- Do not charge batteries inside of an automobile. Do not charge batteries while driving in an automobile. The charger is equipped with a long cord intended to allow the battery to be charged outside of an automobile when using the automobile's auxiliary power socket. If the cord will not reach outside of the automobile, find another power source.
- Never charge batteries on wood, cloth, carpet or on any other flammable material.
- Do not operate the charger in a cluttered space, or place objects on top of the charger or battery.

*Toll-free support is available to U.S. residents only.

Traxxas
6200 Traxxas Way
McKinney, TX 75070
Phone: 972-549-3000
Toll-free 1-888-TRAXXAS

Internet
Traxxas.com
E-mail: support@Traxxas.com

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Registering Your Model

In order to serve you better as our customer, please register your product within 10 days of your purchase online at Traxxas.com/register.

Traxxas.com/register

All instructions and precautions outlined in this manual should be strictly followed to ensure safe operation of your model.

This model is not intended for use by children under 14 years of age without the supervision of a responsible and knowledgeable adult. Gearing and battery choice *(see LiPo Batteries, right)* effect the skill level of the model. See chart below.

1 Skill Level	Gearing: Stock Pinion Battery: 6-Cell NiMH Voltage*: 7.2V mAh: 3000+mAh
2 Skill Level	Gearing: Opt. Pinion Battery: 7-Cell NiMH Voltage*: 8.4V mAh: 4000+mAh
5 Skill Level For Expert Drivers	Gearing: Opt. Gearing Battery: 3S 20C LiPo Voltage*: 11.1V mAh: 4000+ mAh
5 Skill Level For Expert Drivers	Gearing: Opt. Gearing Battery: 3S 20C LiPo Voltage*: 11.1V mAh: 8000 mAh

*Nominal

See the gearing chart on page 25 for more information.

- If a battery gets hot to the touch during the charging process (temperature greater than 140°F / 60°C), disconnect the battery fromthe charger and discontinue charging immediately.
- Always store battery packs safely out of the reach of children and pets.
- Do not short-circuit the battery pack. This may cause burns and severe damage to the battery pack and create the risk of fire.
- Do not expose the charger to water or moisture.
- Do not disassemble the charger.
- Use the supplied charger to charge the included battery. See *"Charging the Battery Pack"* on page 13.
- Never leave batteries to charge unattended.
- Remove the battery from the model while charging.
- Always unplug the battery from the electronic speed control when the model is not in use and when it is being stored or transported.
- Allow the battery pack to cool off between runs (before charging).
- Children should have responsible adult supervision when charging and handling batteries.
- Do not use battery packs that have been damaged in any way.
- Do not use battery packs that have damaged wiring, exposed wiring, or a damaged connector.
- Do not short-circuit the battery pack. This may cause burns and severe damage to the battery pack.
- Do not burn or puncture the batteries. Toxic materials could be released. If eye or skin contact occurs, flush with water.
- Store the battery pack in a dry location, away from heat sources and direct sunlight.
- Nickel Metal Hydride batteries must be recycled or disposed of properly.

Recycling Your Traxxas Power Cell NiMH Battery

Traxxas strongly encourages you to recycle your Power Cell NiMH battery when it has reached the end of its useful life. **Do not throw your battery in the trash.** All Power Cell NiMH battery packs display the RBRC (Rechargeable Battery Recycling Corporation) icon, indicating they are recyclable. To find a recycling center near you, ask your local hobby dealer or visit www.call2recycle.org.

LiPo Batteries

Lithium Polymer (LiPo) batteries are becoming popular for use in R/C models due to their compact size, high energy density, and high-current output. However, these types of batteries require special care and handling procedures for long life and safe operation. **WARNING: LiPo batteries are intended only for advanced users that are educated on the risks associated with LiPo battery use. Traxxas does not recommend that anyone under the age of 14 use or handle LiPo battery packs without the supervision of a knowledgeable and responsible adult.**

Your model is able to use LiPo batteries with nominal voltage not to exceed 11.1 volts (3S packs). LiPo batteries have a minimum safe discharge voltage threshold that should not be exceeded. The Velineon VXL-3s electronic speed control is equipped with built-in Low-Voltage Detection that alerts the driver when LiPo batteries have reached their minimum voltage (discharge) threshold. **It is the driver's responsibility to stop immediately to prevent the battery pack from being discharged below its safe minimum threshold.**

Low-Voltage Detection on the speed control is just one part of a comprehensive plan for safe LiPo battery use. **It is critical for you, the user, to follow all other instructions supplied by the battery manufacturer and the charger manufacturer for proper charging, use, and storage of LiPo batteries. Do not attempt to charge LiPo batteries with the Traxxas charger included in this package. Make sure you understand how to use your LiPo batteries.** Be aware that Traxxas shall not be liable for any special, indirect, incidental, or consequential damages arising out of the installation and/or use of LiPo batteries in Traxxas models. **If you have questions about LiPo battery usage, please consult with your local hobby dealer or contact the battery manufacturer.** As a reminder, all batteries should be recycled at the end of their useful life.

DO NOT ATTEMPT TO CHARGE LIPO BATTERIES OR ANY OTHER TYPE OF BATTERY WITH THE INCLUDED TRAXXAS CHARGER.

Speed Control

- **Disconnect the Batteries**: Always disconnect the battery pack from the speed control when not in use.
- **Transmitter on First:** Switch on your transmitter first before switching on the speed control to prevent runaways and erratic performance.
- **Don't Get Burned**: The heat sink can get extremely hot, so be careful not to touch it until it is cool. Supply adequate airflow for cooling.
- **Use Stock Connectors**: If you decide to change the battery or motor connectors, only change one battery or motor connector at a time. This will prevent damage from accidentally mis-wiring the speed control. Please note that modified speed controls can be subject to a rewiring fee when returned for service. Removing the battery connector on the speed control or using the same-gender connectors on the speed control will void the product's warranty.
- **Insulate the Wires**: Always insulate exposed or damaged wiring with heat shrink tubing to prevent short circuits

Your model comes with a set of specialty metric tools. You'll need to purchase other items, available from your hobby dealer, to operate and maintain your model.

Supplied Tools and Equipment

2.5mm "L" wrench

2.0mm "L" wrench

1.5mm "L" wrench

Turnbuckle wrench

U-joint wrench

4-way wrench

Optional Pinion Gear *see page 25*

Various pre-load spacers and shock pistons (on parts tree) *see page 22*

Body clips and body washers

NiMH battery charger*

7-cell NiMH battery pack with Traxxas High-Current Connector*

Required Equipment
(SOLD SEPARATELY)

4 AA alkaline batteries

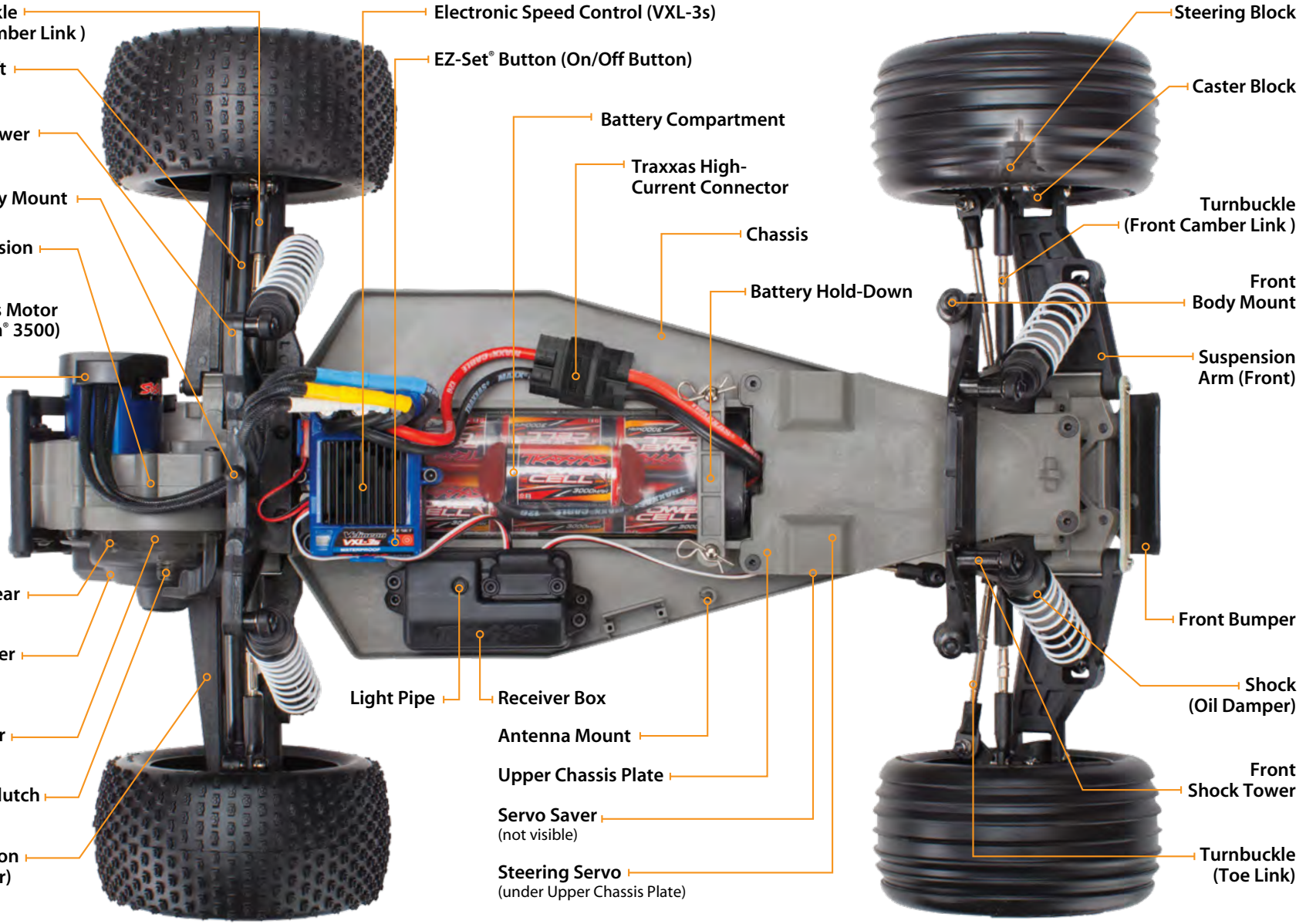
*Battery and charger style are subject to change and may vary from images.

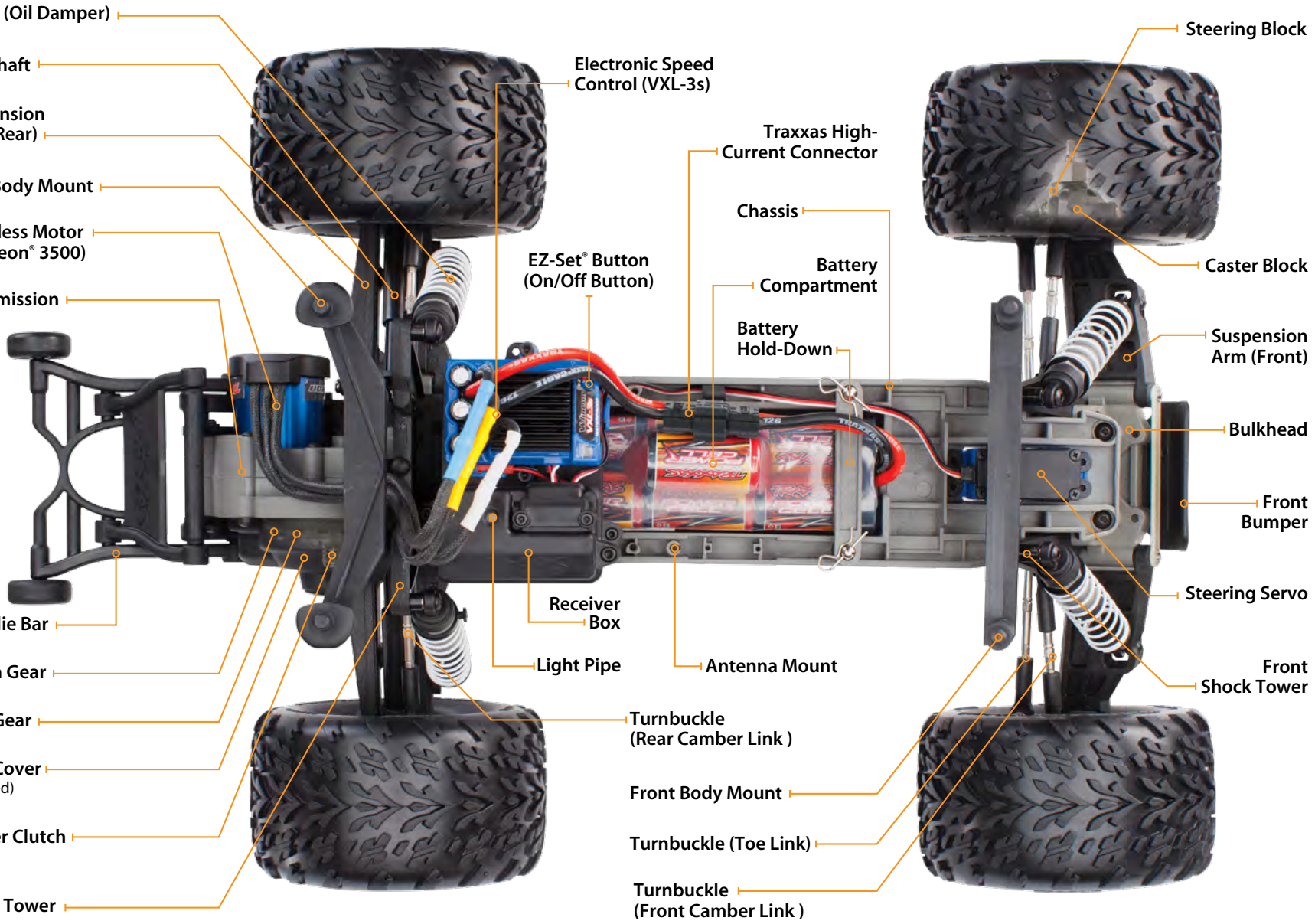
For more information on batteries, see *Use the Right Batteries* on page 13.

Recommended Equipment
These items are not required for the operation of your model, but are a good idea to include in any R/C toolbox:

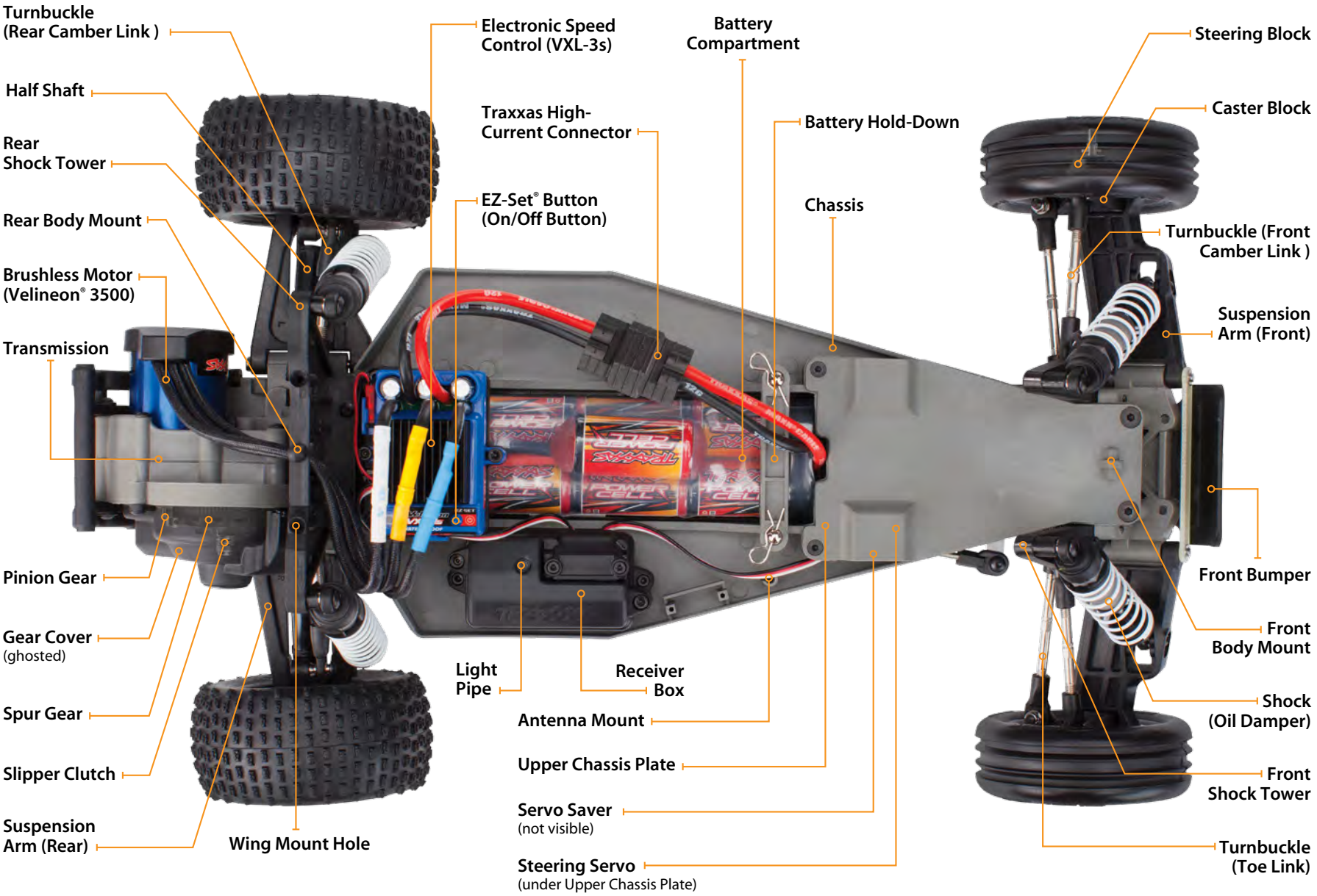
- Safety glasses
- Traxxas Ultra Premium Tire Glue, Part #6468 (CA glue)
- Hobby knife
- Side cutters and/or needle nose pliers
- Philips screwdriver
- Soldering iron

ANATOMY OF THE RUSTLER VXL




Shock (Oil Damper)
Half Shaft
Suspension Arm (Rear)
Rear Body Mount
Brushless Motor (Velineon® 3500)
Transmission
Wheelie Bar
Pinion Gear
Spur Gear
Gear Cover (ghosted)
Slipper Clutch
Rear Shock Tower
Electronic Speed Control (VXL-3s)
EZ-Set® Button (On/Off Button)
Traxxas High-Current Connector
Chassis
Battery Compartment
Battery Hold-Down
Receiver Box
Light Pipe
Antenna Mount
Turnbuckle (Rear Camber Link)
Front Body Mount
Turnbuckle (Toe Link)
Turnbuckle (Front Camber Link)
Steering Block
Caster Block
Suspension Arm (Front)
Bulkhead
Front Bumper
Steering Servo
Front Shock Tower

ANATOMY OF THE BANDIT VXL



The following guide is an overview of the procedures for getting your model running. Look for the Quick Start logo on the bottom corners of Quick Start pages.

☐ **1. Read the safety precautions on page 3-4**

For your own safety, understand where carelessness and misuse could lead to personal injury.

☐ **2. Charge the battery pack • See page 13**

Fully charge the included battery pack. Charge your battery now so it will be ready when you finish the other setup procedures.

☐ **3. Install batteries in the transmitter • See page 13**

The transmitter requires 4 AA alkaline batteries (sold separately).

☐ **4. Install the battery pack in the model • See page 14**

Your model requires a fully charged battery pack.

☐ **5. Turn on the radio system • See page 15**

Make a habit of turning the transmitter on first, and off last.

☐ **6. Check servo operation • See page 16**

Make sure the steering servo is working correctly.

☐ **7. Range test the radio system • See page 16**

Follow this procedure to make sure your radio system works properly at a distance and that there is no interference from outside sources.

☐ **8. Detail your model • See page 10**

Apply other decals if desired.

☐ **9. Drive your model • See page 20**

Driving tips and adjustments for your model.

☐ **10. Maintain your model • See page 24**

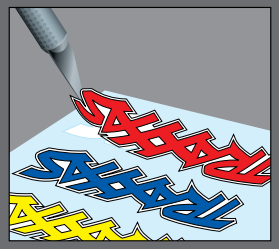
Follow these critical steps to maintain the performance of your model and keep it in excellent running condition.

The Quick Start Guide is not intended to replace the full operating instructions available in this manual. Please read this entire manual for complete instructions on the proper use and maintenance of your model.

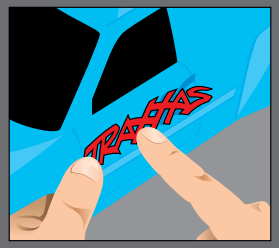
Look for the Quick Start logo at the bottom of Quick Start pages.

Applying the Decals

The main decals for your model have been applied at the factory. The decals are printed on self-adhesive clear mylar and are die-cut for easy removal. Use a hobby knife to lift the corner of a decal and lift it from the backing.



To apply the decals, place one end down, hold the other end up, and gradually smooth the decal down with your finger as you go. This will prevent air bubbles. Placing both ends of the decal down and then trying to smooth it out will result in air pockets. Look at the photos on the box for typical decal placement.



INTRODUCTION

Your model includes the latest Traxxas TQi 2.4GHz transmitter with Traxxas Link™ Model Memory. The transmitter's easy-to-use design provides instant driving fun for new R/C enthusiasts, and also offers a full compliment of pro-level tuning features for advanced users – or anyone interested in experimenting with the performance of their model. The steering and throttle channels feature adjustable Exponential, End Points, and Sub-Trims. Steering and braking Dual Rate are also available. Many of the next-level features are controlled by the Multi-Function knob, which can be programmed to control a variety functions. The detailed instructions (page 26) and Menu Tree (page 28) included in this manual will help you understand and operate the advanced functions of the new TQi radio system. For additional information and how-to videos, visit Traxxas.com.

RADIO AND POWER SYSTEM TERMINOLOGY

Please take a moment to familiarize yourself with these radio and power system terms. They will be used throughout this manual. A detailed explanation of the advanced terminology and features of your new radio system begins on page 26.

2.4GHz Spread Spectrum – This model is equipped with the latest R/C technology. Unlike AM and FM systems that require frequency crystals and are prone to frequency conflicts, the TQi system automatically selects and locks onto an open frequency, and offers superior resistance to interference and "glitching."

BEC (Battery Eliminator Circuit) - The BEC can either be in the receiver or in the ESC. This circuit allows the receiver and servos to be powered by the main battery pack in an electric model. This eliminates the need to carry a separate pack of 4 AA batteries to power the radio equipment.

Brushless Motor - A D/C brushless motor replaces the brushed motor's traditional commutator and brush arrangement with intelligent electronics that energize the electromagnetic windings in sequence to provide rotation. Opposite of a brushed motor, the brushless motor has its windings (coils) on the perimeter of the motor can and the magnets are mounted to the spinning rotor shaft.

Cogging - Cogging is a condition sometimes associated with brushless motors. Typically it is a slight stutter noticed when accelerating from a stop. It happens for a very short period as the signals from the electronic speed control and the motor synch with each other. The VXL-3s electronic speed control is optimized to virtually eliminate cogging.

Current - Current is a measure of power flow through the electronics, usually measured in amps. If you think of a wire as a garden hose, current is a measure of how much water is flowing through the hose.

ESC (Electronic Speed Control) - An electronic speed control is the electronic motor control inside the model. The VXL-3s electronic speed control uses advanced circuitry to provide precise, digital proportional throttle control. Electronic speed controls use power more efficiently than mechanical speed controls so that the batteries run longer. An electronic speed control also has circuitry that prevents loss of steering and throttle control as the batteries lose their charge.

Frequency band - The radio frequency used by the transmitter to send signals to your model. This model operates on the 2.4GHz direct-sequence spread spectrum.

kV Rating - Brushless motors are often rated by their kV number. The kV rating equals no-load motor rpm with 1 volt applied. The kV increases as the number of wire turns in the motor decreases. As the kV increases, the current draw through the electronics also increases. The Velineon 3500 motor is a 3500 kV motor optimized for the best speed and efficiency in lightweight 1/10 scale models.

LiPo - Abbreviation for Lithium Polymer. Rechargeable LiPo battery packs are known for their special chemistry that allows extremely high energy density and current handling in a compact size. These are high performance batteries that require special care and handling. For advanced users only.

mAh – Abbreviation for milliamp hour. A measure of the capacity of the battery pack. The higher the number, the longer the battery will last between recharges.

Neutral position - The standing position that the servos seek when the transmitter controls are at the neutral setting.

NiCad - Abbreviation for nickel-cadmium. The original rechargeable hobby pack, NiCad batteries have very high current handling, high capacity, and can last up to 1000 charging cycles. Good charging procedures are required to reduce the possibility of developing a "memory" effect and shortened run times.

NiMH - Abbreviation for nickel-metal hydride. Rechargeable NiMH batteries offer high current handling, and much greater resistance to the "memory" effect. NiMH batteries generally allow higher capacity than NiCad batteries. They can last up to 500 charge cycles. A peak charger designed for NiMH batteries is required for optimal performance.

Receiver - The radio unit inside your model that receives signals from the transmitter and relays them to the servos.

Resistance - In an electrical sense, resistance is a measure of how an object resists or obstructs the flow of current through it. When flow is constricted, energy is converted to heat and is lost. The Velineon power system is optimized to reduce electrical resistance and the resulting power-robbing heat.

Rotor - The rotor is the main shaft of the brushless motor. In a brushless motor, the magnets are mounted to the rotor, and the electromagnetic windings are built into the motor housing.

Sensored - Sensored refers to a type of brushless motor that uses an internal sensor in the motor to communicate rotor position information back to the electronic speed control. The VXL-3s electronic speed control is able to use sensored motors when applications benefit from them (such as some sanctioned racing classes).

Sensorless - Sensorless refers to a brushless motor that uses advanced instructions from an electronic speed control to provide smooth operation. Additional motor sensors and wiring are not required. The VXL-3s electronic speed control is optimized for smooth sensorless control.

Servo - Small motor unit in your model that operates the steering mechanism.

Solder Tabs - Accessible, external contacts on the motor that allows for easy wire replacement. The Velineon 3500 is equipped with solder tabs.

Transmitter - The hand-held radio unit that sends throttle and steering instructions to your model.

Trim - The fine-tuning adjustment of the neutral position of the servos, made by adjusting the throttle and steering trim knobs on the face of the transmitter. Note: The Multi Function knob must be programmed to serve as a throttle trim adjustment.

Thermal Shutdown Protection - Temperature sensing electronics used in the VXL-3s electronic speed control detect overloading and overheating of the transistor circuitry. If excessive temperature is detected, the unit automatically shuts down to prevent damage to the electronics.

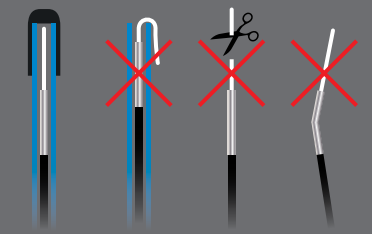
2-channel radio system - The TQi radio system, consisting of the receiver, the transmitter, and the servos. The system uses two channels: one to operate the throttle and one to operate the steering.

Voltage - Voltage is a measure of the electrical potential difference between two points, such as between the positive battery terminal and ground. Using the analogy of the garden hose, while current is the quantity of water flow in the hose, voltage corresponds to the pressure that is forcing the water through the hose.

IMPORTANT RADIO SYSTEM PRECAUTIONS

- Do not kink the receiver's antenna wire. Kinks in the antenna wire will reduce range.
- DO NOT CUT any part of the receiver's antenna wire. Cutting the antenna will reduce range.
- Extend the antenna wire in the model as far as possible for maximum range. It is not necessary to extend the antenna wire out of the body, but wrapping or coiling the antenna wire should be avoided.
- Do not allow the antenna wire to extend outside the body without the protection of an antenna tube, or the antenna wire may get cut or damaged, reducing range. It is recommended to keep the wire inside the body (in the antenna tube) to prevent the chance of damage.

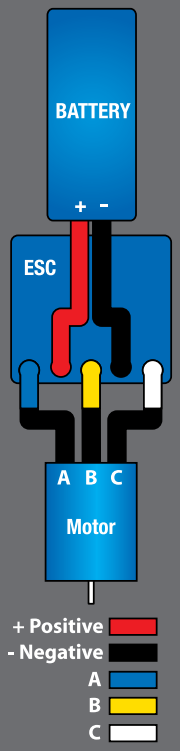
To prevent loss of radio range do not kink or cut the black wire, do not bend or cut the metal tip, and do not bend or cut the white wire at the end of the metal tip.



Velineon 3500 Specs

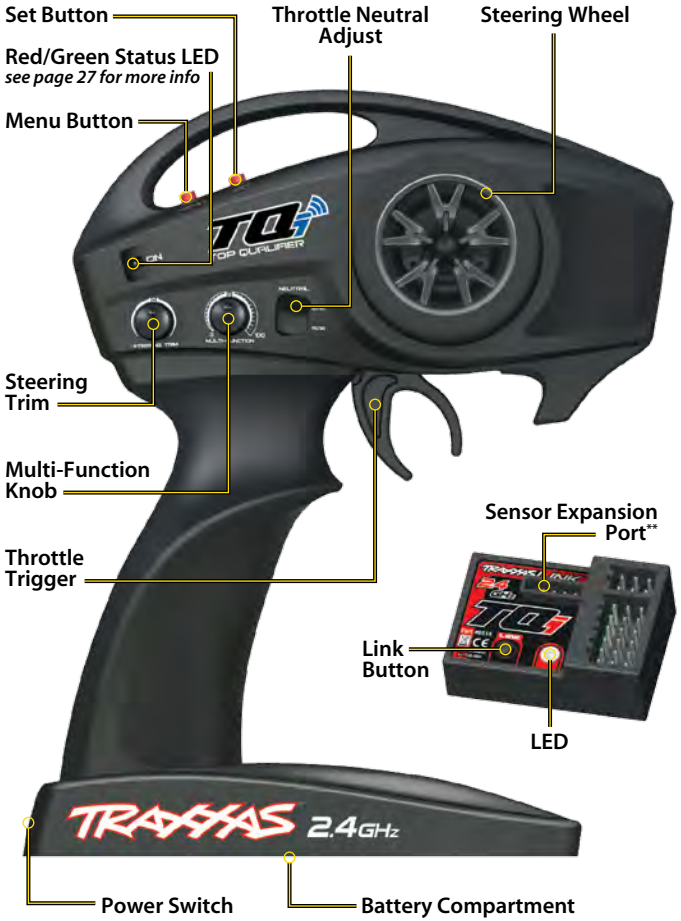
Type: Sensorless brushless
RPM/volt: 3500
Magnet type: Ultra High-Temperature Sintered Neodymium
Connection type : 3.5mm bullet
Wire size: 12 Gauge
Max RPM: 50,000
Diameter: 36mm (1.42") (540 size)
Length: 55mm (2.165")
Weight: 262g (9.24oz)

ESC/Motor Wiring Diagram



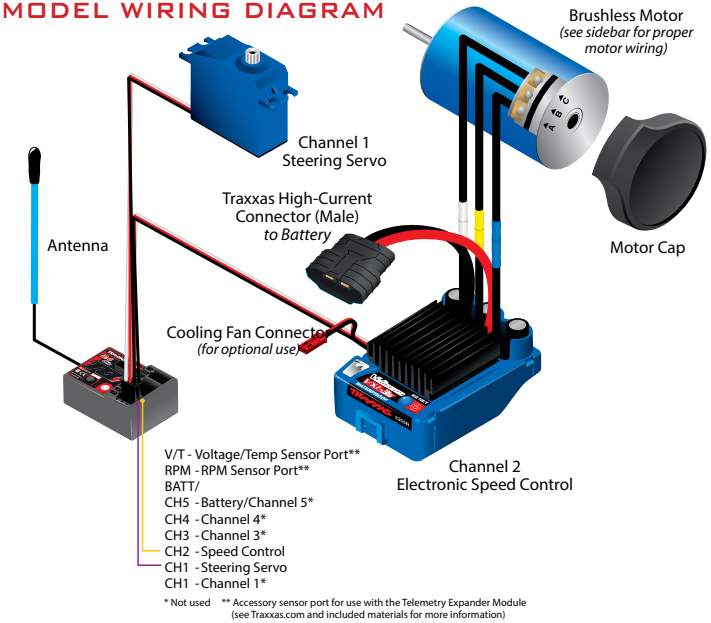
Your model is equipped with the newest TQi 2.4GHz transmitter with Traxxas Link™ Model Memory. The transmitter has two channels for controlling your throttle and steering. The receiver inside the model has 5 output channels. Your model is equipped with one servo and an electronic speed control.

TRANSMITTER AND RECEIVER

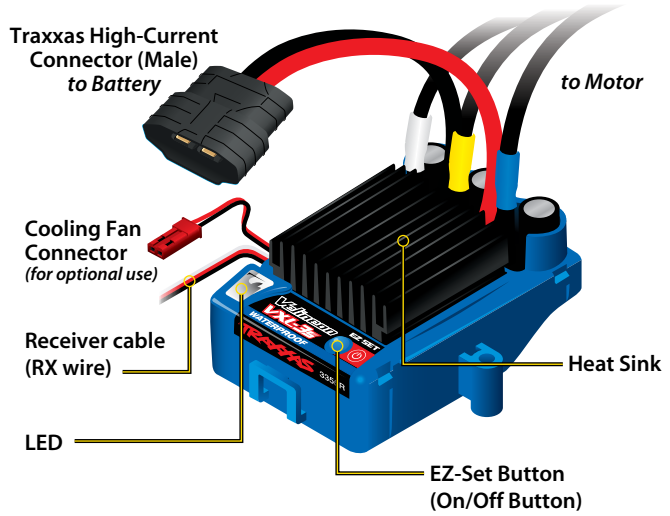


** Accessory sensor port for use with the Telemetry Expander Module (see Traxxas.com for more information)

MODEL WIRING DIAGRAM


Brushless Motor
see sidebar for proper motor wiring
Channel 1 Steering Servo
Traxxas High-Current Connector (Male)
to Battery
Antenna
Motor Cap
Cooling Fan Connector
(for optional use)
Channel 2 Electronic Speed Control
V/T - Voltage/Temp Sensor Port**
RPM - RPM Sensor Port**
BATT/
CH5 - Battery/Channel 5*
CH4 - Channel 4*
CH3 - Channel 3*
CH2 - Speed Control
CH1 - Steering Servo
CH1 - Channel 1*
* Not used ** Accessory sensor port for use with the Telemetry Expander Module (see Traxxas.com and included materials for more information)

VXL-3s ELECTRONIC SPEED CONTROL



INSTALLING TRANSMITTER BATTERIES

Your TQi transmitter uses 4 AA batteries. The battery compartment is located in the base of the transmitter.

1. Remove the battery compartment door by pressing the tab and sliding the door open.
2. Install the batteries in the correct orientation as indicated in the battery compartment.
3. Reinstall the battery door and snap it closed.
4. Turn on the transmitter and check the status indicator for a solid green light.

If the status LED flashes red, the transmitter batteries may be weak, discharged or possibly installed incorrectly. Replace with new batteries. The power indicator light does not indicate the charge level of the battery pack installed in the model. Refer to the Troubleshooting section on page 27 for more information on the transmitter Status LED codes.

CHARGING THE BATTERY PACK

The Traxxas Battery Charger is a fully featured NiMH (Nickle Metal Hydride) charger. It features 4-amp charge current for fast charging and advanced peak detection to optimize every charge. Take this compact charger with you wherever you want to have radio controlled fun! ***Do not charge batteries inside of an automobile. Read the Safety Precautions section of this manual.***

1. **Plug the charger into a 12-volt automotive auxiliary power socket.** The charger is compatible with 12-volt automotive auxiliary power sockets only. The LED on the charger will glow red to indicate it is ready to charge a battery.

2. **Connect the battery to begin charging.** Plug the battery into the charger. The charger's LED will flash green, indicating that charging has begun. The flashing green LED on the charger indicates the charge progress.

3. **Disconnect the battery when charging is complete.** The Traxxas 4-amp DC charger uses sophisticated voltage-detection circuitry to monitor the battery and automatically stop charging when the pack has reached maximum capacity. When the battery is fully charged, the LED will light solid green. The battery will be warm in your hand. Disconnect the battery.

CHARGE PROGRESS

x1	1 green flash	0 - 25% charged
x2	2 green flashes	25% - 50% charged
x3	3 green flashes	50% - 75% charged
x4	4 green flashes	75% or more charged
	Solid green LED	100% charged

CHARGER LED INDICATION	MEANING
Solid Red LED	Ready for Charging
Slowly Flashing Green LED	Charging (see Charge Progress chart)
Solid Green LED	Battery Fully Charged
Flashing Red LED	Charger error

The included charger is designed for use only with Traxxas NiMH batteries with iD. Legacy Traxxas High-Current Connectors are not compatible with this charger. DO NOT try to force legacy connectors into the charge connector.

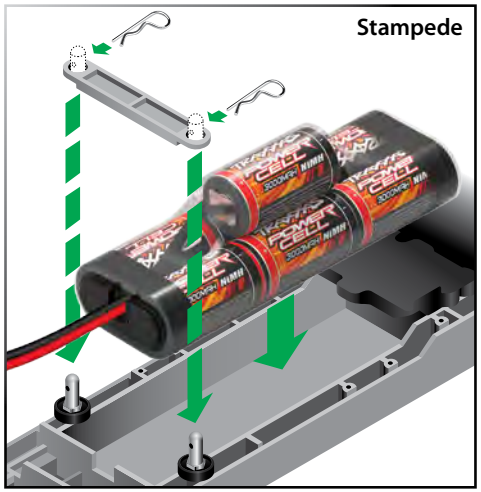
If the status LED doesn't light green, check the polarity of the batteries. Check rechargeable batteries for a full charge. If you see any other flashing signal from the LED, refer to the chart on page 27 to identify the code.

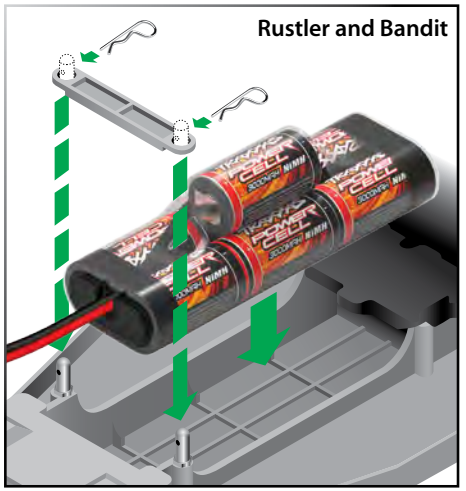
Use the Right Batteries
Your transmitter uses AA batteries. Use new alkaline batteries. Do not use rechargeable AA cells to power the TQi transmitter, as they will not provide sufficient voltage for optimum transmitter performance.

Caution: Discontinue running your model at the first sign of weak batteries (flashing red light) to avoid losing control.

Battery iD
Your model's included battery pack is equipped with Traxxas Battery iD. This exclusive feature allows Traxxas battery chargers (sold separately) to automatically recognize connected battery packs and optimize the charge settings for the battery. This eliminates the need to worry over charger settings and menus for the easiest and safest charging solution possible. Visit Traxxas.com to learn more about this feature and available Traxxas iD chargers and batteries.

Installing the Battery Pack
Place the battery pack into the battery compartment of the model and then place the battery hold-down over the posts. Secure the battery hold-down with body clips in the holes in the posts. Do not connect the battery pack yet.





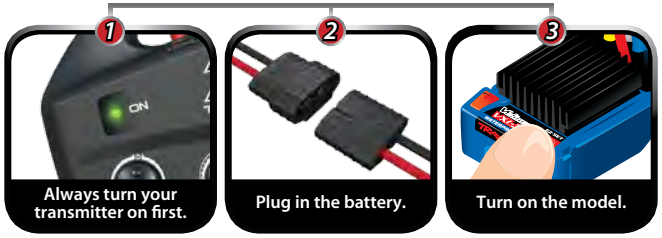
The Traxxas High Current Connector
Your model is equipped with the Traxxas High-Current Connector. Standard connectors restrict current flow and are not capable of delivering the power needed to maximize the output of the Velineon Brushless Power system.

The Traxxas connector's gold-plated terminals with a large contact surfaces ensure positive current flow with the least amount of resistance. Secure, long-lasting, and easy to grip, the Traxxas connector is engineered to extract all the power your battery has to give.

RADIO SYSTEM CONTROLS

RADIO SYSTEM RULES

- Always turn your TQi transmitter on first and off last. This procedure will help to prevent your model from receiving stray signals from another transmitter, or other source, and running out of control. Your model has electronic fail-safes to prevent this type of malfunction, but the first, best defense against a runaway model is to always turn the transmitter on first, and off last.
- Always use new or freshly charged batteries for the radio system. Weak batteries will limit the radio signal between the receiver and the transmitter. Loss of the radio signal can cause you to lose control of your model.



- In order for the transmitter and receiver to bind to one another, the receiver in the model must be turned on within 20 seconds of turning on the transmitter. The transmitter LED will flash fast red indicating a failure to link. If you miss it, simply turn off the transmitter and start over.
- Always turn on the transmitter before plugging in the battery.

RADIO SYSTEM BASIC ADJUSTMENTS

Throttle Neutral Adjustment

The throttle neutral adjustment is located on the transmitter face and controls the forward/reverse travel of the throttle trigger. Change the adjustment by pressing the button and sliding it to the desired position. There are two settings available:

50/50: Allows equal travel for both acceleration and reverse.
70/30: Allows more throttle travel (70%) and less reverse travel (30%).

Note: We strongly recommend to leave this control in its factory location until you become familiar with all the adjustments and capabilities of your model. To change the throttle neutral adjust position, turn the transmitter off before adjusting the neutral position. **You will need to reprogram your electronic speed control to recognize the 70/30 setting.** *Turn to ESC Setup Programming on page 18 for instructions.*

Steering Trim

The electronic steering trim located on the face of the transmitter adjusts the neutral (center) point of the steering channel.

Multi-Function Knob

The Multi-Function knob can be programmed to control a variety of functions. From the factory, the Multi-Function knob controls steering sensitivity, also known as exponential or “expo.” When the knob is turned counterclockwise all the way to the left (default position), expo is off and steering sensitivity will be linear (the most commonly used setting). Turning the knob clockwise will “add expo” and decrease the steering sensitivity in the initial range of steering wheel travel left or right from center. For more detail on steering exponential, refer to page 17.

Remember, always turn the TQi transmitter on first and off last to avoid damage to your model.

Automatic Fail-Safe
The TQi transmitter and receiver are equipped with an automatic fail-safe system that does not require user programming. In the event of signal loss or interference, the throttle will return to neutral and the steering will hold its last commanded position. If failsafe activates while you are operating your model, determine the reason for signal loss and resolve the problem before operating your model again.

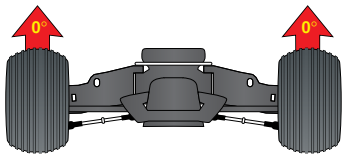
Stop immediately at the first sign of weak batteries. Never turn the transmitter off when the battery pack is plugged in. The model could run out of control.

Using Reverse: While driving, push the throttle trigger forward to apply brakes. Once stopped, return the throttle trigger to neutral. Push the throttle trigger forward again to engage proportional reverse.

USING THE RADIO SYSTEM

The TQi Radio System has been pre-adjusted at the factory. The adjustment should be checked before running the model, in case of movement during shipping. Here's how:

1. Turn the transmitter switch on. The status LED on the transmitter should be solid green (not flashing).
2. **Elevate the model on a block or a stand so that all the tires are off the ground.** Make sure your hands are clear of the moving parts of the model.
3. Plug the battery pack in the model into the speed control.
4. The on/off switch is integrated into the speed control. With the transmitter on, press and release the EZ-Set button (.25 seconds). The LED will shine RED (see note, below). This turns the model on. To turn the VXL-3s off, press and hold the EZ-Set button until the LED turns off (.5 seconds). **Note:** If the LED shines green, Low-Voltage Detection is activated. This may cause poor performance from the included NiMH battery pack. The default factory setting is for Low-Voltage Detection to be disabled (LED shines red). Make sure to turn the Low-Voltage Detection on when using LiPo batteries. **Never use LiPo batteries while Low-Voltage Detection is turned off.** See page 18 for more information.
5. Turn the steering wheel on the transmitter back and forth and check for rapid operation of the steering servo. Also, check that the steering mechanism is not loose or binding. If the steering operates slowly, check for weak batteries.
6. When looking down at model, the front wheels should be pointing straight ahead. If the wheels are turned slightly to the left or right, slowly adjust the steering trim control on the transmitter until they are pointing straight ahead.



7. Gently operate the throttle trigger to ensure that you have forward and reverse operation, and that the motor stops when the throttle trigger is at neutral. **Warning**: **Do not apply full throttle in forward or reverse while the model is elevated.**
8. Once adjustments are made, turn off the receiver on your model, followed by the hand-held transmitter.

Range-Testing the Radio System

Before each running session with your model, you should range-test your radio system to ensure that it operates properly.

1. Turn on the radio system and check its operation as described in the previous section.
2. Have a friend hold the model. Make sure hands and clothing are clear of the wheels and other moving parts on the model.
3. Walk away from the model with the transmitter until you reach the farthest distance you plan to operate the model.
4. Operate the controls on the transmitter once again to be sure that the model responds correctly.
5. Do not attempt to operate the model if there is any problem with the radio system or any external interference with your radio signal at your location.

Higher Speeds Require Greater Distance

The faster you drive your model, the more quickly it will near the limit of radio range. At 60mph, a model can cover 88 feet every second! It's a thrill, but use caution to keep your model in range. If you want to see your model achieve its maximum speed, it is best to position yourself in the middle of the truck's running area, not the far end, so you drive the truck towards and past your position. In addition to maximizing the radio's range, this technique will keep your model closer to you, making it easier to see and control.

No matter how fast or far you drive your model, always leave adequate space between you, the model, and others. Never drive directly toward yourself or others.

TQi Binding Instructions

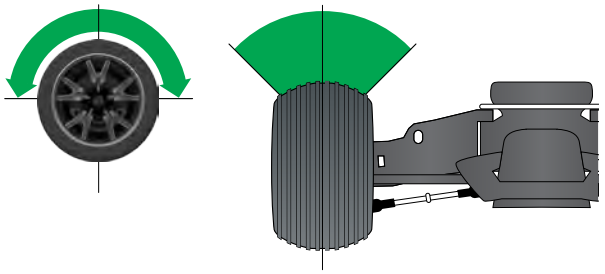
For proper operation, the transmitter and receiver must be electronically "bound." **This has been done for you at the factory.** Should you ever need to re-bind the system or bind to an additional transmitter or receiver, follow these instructions. **Note**: The receiver must be connected to a 4.8-6.0v (nominal) power source for binding and the transmitter and receiver must be within 5 feet of each other.

1. Press and hold the transmitter's SET button as you switch transmitter on. The transmitter's LED will flash red slowly. Release the SET button
2. Press and hold the receiver's LINK button as you switch on the speed control by pressing the EZ-Set button. Release the LINK button.

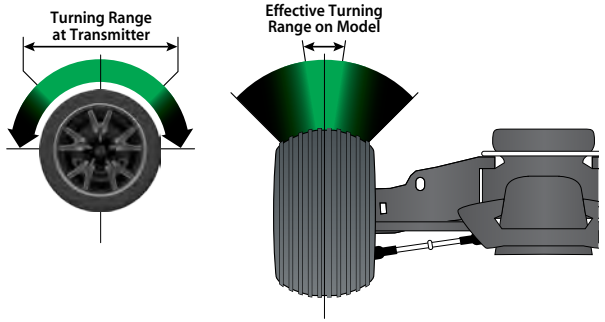
3. When the transmitter and receiver's LEDs turn solid green, the system is bound and ready for use. Confirm that the steering and throttle operate properly before driving your model.

Steering Sensitivity (Exponential)
The Multi-Function knob on the TQi transmitter has been programmed to control Steering Sensitivity (also known as exponential). The standard setting for Steering Sensitivity is "normal (zero exponential)," with the dial full left in its range of travel. This setting provides linear servo response: the steering servo's movement will correspond exactly with the input from the transmitter's steering wheel. Turning the knob clockwise from the left will result in "negative exponential" and decrease steering sensitivity by making the servo less responsive near neutral, with increasing sensitivity as the servo nears the limits of its travel range. The farther you turn the knob, the more pronounced the change in steering servo movement will be. The term "exponential" comes from this effect; the servo's travel changes exponentially relative to the input from the steering wheel. The exponential effect is indicated as a percentage—the greater the percentage, the greater the effect. The illustrations below show how this works.

Normal Steering Sensitivity (0% exponential)
In this illustration, the steering servo's travel (and with it, the steering motion of the model's front wheels) corresponds precisely with the steering wheel. The ranges are exaggerated for illustrative purposes.



Decreased Steering Sensitivity (Negative Exponential)
By turning the Multi-Function knob clockwise, the steering sensitivity of the model will be decreased. Note that a relatively large amount of steering wheel travel results in a smaller amount of servo travel. The farther you turn the knob, the more pronounced the effect becomes. Decreased steering sensitivity may be helpful when driving on low-traction surfaces, when driving at high speed, or on tracks that favor sweeping turns where gentle steering inputs are required. The ranges are exaggerated for illustrative purposes.

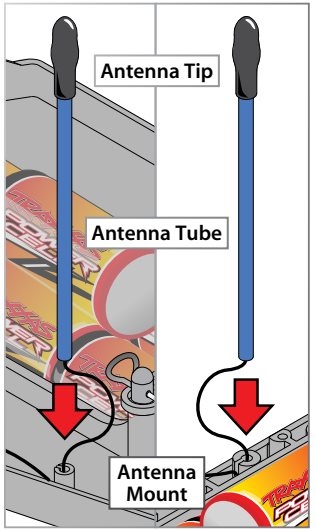


Experiment! Try varying degrees of exponential. It's easy to go back to "zero" if you don't like the effect. There's no wrong way to adjust exponential. Any setting that makes you more comfortable with your model's handling is the "right setting."

SETTING UP THE ANTENNA

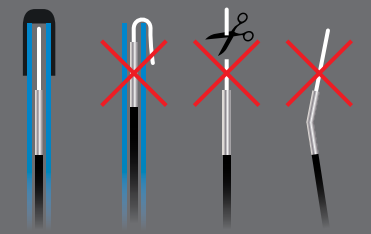
The receiver antenna has been set up and installed from the factory.

When reinstalling the antenna, first slide the antenna wire into bottom of antenna tube until white tip of antenna is at top of tube under the black cap. Next insert the antenna tube into the mount while making sure that antenna wire is in slot in the antenna mount. **Do not bend or kink the antenna wire! See the side bar for more information. Do not shorten the antenna tube.**



Rustler and Bandit **Stampede**

To prevent loss of radio range do not kink or cut the black wire, do not bend or cut the metal tip, and do not bend or cut the white wire at the end of the metal tip.



VXL-3s Specifications

Input voltage:
4.8-11.1V (4 to 9 cells NiMH or 2S to 3S LiPo)

Supported Motors:
Brushless

Motor limit:
None

Continuous current:
200A

Peak current :
320A

BEC voltage:
6.0V DC

Transistor type:
MOSFET

Battery connector:
Traxxas High-Current Connector

Motor connectors:
TRX 3.5mm bullet connectors

Motor/Battery Wiring:
12-gauge Maxx® Cable

Thermal Protection:
2-stage thermal shutdown

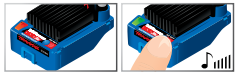
The VXL-3s features Locked Rotor Protection. The VXL-3s checks to make sure the motor is turning. If the motor is locked or damaged, the ESC will enter fail-safe until the motor is free to rotate.

VXL-3s Battery Settings (Low-Voltage Detection Setting)
The Velineon VXL-3s electronic speed control is equipped with built-in Low-Voltage Detection. The Low-Voltage Detection circuitry constantly monitors the battery voltage. When the battery voltage begins to reach the minimum recommended discharge voltage threshold for LiPo battery packs, the VXL-3s will limit the power output to 50% throttle. When the battery voltage attempts to fall below the minimum threshold, the VXL-3s will shut down all motor output. The LED on the speed control will slowly blink red, indicating a low voltage shutdown. The VXL-3s will stay in this mode until a fully charged battery is connected.

Your model includes a Power Cell NiMH battery. The VXL-3s speed control's Low Voltage Detection has been disabled for best performance with this battery. The speed control's LED will glow red when it is turned on, indicating Low Voltage Detection is disabled. Be certain to activate Low-Voltage Detection if you install LiPo batteries in your model. **Never use LiPo batteries while Low-Voltage Detection is disabled.**

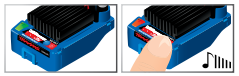
Verify that Low-Voltage Detection is DISABLED:
1. Turn on the transmitter (with the throttle at neutral).
2. Connect a fully charged battery pack to the VXL-3s.
3. Press and release the EZ-Set button to turn the VXL-3s on. If the LED is solid red, then the Low-Voltage Detection is DISABLED (not safe to use LiPo batteries). If the LED is solid green, then Low-Voltage Detection is ACTIVATED.

To activate Low-Voltage Detection (LiPo setting):



1. Make sure the LED on the VXL-3s is on and red.
2. Press and hold the EZ-Set button for ten seconds. The LED will turn off and then light green. Also, a "rising" musical tone will be emitted from the motor.
3. Low-Voltage Detection is now ACTIVATED.

To disable Low-Voltage Detection (NiMH setting):



1. Make sure the LED on the VXL-3s is on and green.
2. Press and hold the EZ-Set button for ten seconds. The LED will turn off and then light red. Also, a "falling" musical tone will be emitted from the motor.
3. Low-Voltage Detection is now DISABLED.

Transmitter Adjustments for the VXL-3s ESC
Before attempting to program your VXL-3s ESC, it is important to make sure that your transmitter is properly adjusted (set back to the factory defaults). Otherwise, you may not get the best performance from your speed control.

The transmitter should be adjusted as follows:
If the transmitter setting have been adjusted, reset them to the factory defaults.
1. Turn transmitter off.
2. Hold both MENU and SET.
3. Turn transmitter on.
4. Release MENU and SET. The transmitter LED will blink red.
5. Press MENU once. The transmitter LED will blink red twice repeatedly.
6. Press SET to clear settings. The LED will turn solid green and the transmitter is restored to default.

VXL-3s Setup Programming (Calibrating your ESC and transmitter)
Read through all of the programming steps before you begin. If you get lost during programming or receive unexpected results, simply unplug the battery, wait a few seconds, plug the battery back in, and start over.

1. Connect a fully charged battery pack to the VXL-3s.
2. Turn on the transmitter (with the throttle at neutral).
3. Press and hold the EZ-Set button (A). The LED will first turn green and then red. Release the EZ-Set button.
4. When the LED blinks RED ONCE, pull the throttle trigger to the full throttle position and hold it there (B).
5. When the LED blinks RED TWICE, push the throttle trigger to the full reverse and hold it there (C).
6. When the LED blinks GREEN ONCE, programming is complete. The LED will then shine green or red (depending on low-voltage detection setting) indicating the VXL-3s is on and at neutral (D).

VXL-3s Operation
To operate the speed control and test programming, place the vehicle on a stable block or stand so that all of the driven wheels are off the ground. Disconnect motor wires "A" and "C" (*see page 12*), this will assure the motor does not drive the wheels during testing. Do not test programming without disconnecting the motor wires.

Note that in steps 1-7 below, Low-Voltage Detection is DISABLED (factory default) and the LED shines red. If Low-Voltage Detection is ACTIVATED, the LED will shine green instead of red in steps 1-7 below. ***Never use LiPo batteries while Low-Voltage Detection is disabled.***

1. With the transmitter on, press and release the EZ-Set button. The LED will shine red. This turns the VXL-3s on.
2. Apply forward throttle. The LED will turn off until full throttle power is reached. At full throttle, the LED will illuminate red.
3. Move the trigger forward to apply the brakes. Note that braking control is fully proportional. The LED will turn off until full braking power is reached. At full brakes, the LED will illuminate red.
4. Return the throttle trigger to neutral. The LED will shine red.
5. Move the throttle trigger forward again to engage reverse (Profile #1). The LED will turn off. Once full reverse power is reached, the LED will illuminate red.
6. To stop, return the throttle trigger to neutral. Note that there is programmed delay when changing from reverse to forward. This prevents damage to the transmission on high-traction surfaces.
7. To turn the VXL-3s off, press the EZ-Set button until the LED turns off (.5 seconds).

VXL-3s Profile Selection

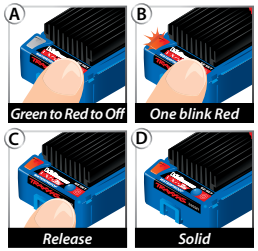
The speed control is factory set to Profile #1 (100% forward, brakes, and reverse). To disable reverse (Profile #2) or to allow 50% forward and 50% reverse (Profile #3), follow the steps below. The speed control should be connected to the receiver and battery, and the transmitter should be adjusted as described previously. The profiles are selected by entering the programming mode.

Profile Description

Profile #1 (Sport Mode): 100% Forward, 100% Brakes, 100% Reverse
Profile #2 (Race Mode): 100% Forward, 100% Brakes, No Reverse
Profile #3 (Training Mode): 50% Forward, 100% Brakes, 50% Reverse

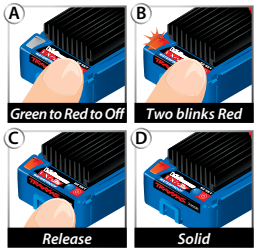
Selecting Sport Mode (Profile #1: 100% Forward, 100% Brakes, 100% Reverse)

1. Connect a fully charged battery pack to the VXL-3s and turn on your transmitter.
2. With the VXL-3s off, press and hold the EZ-Set button until the LED turns solid green, then solid red and then begins blinking red (indicating the Profile numbers).
3. When the LED blinks red once, release the EZ-Set button.
4. The LED will blink and then turn solid green (Low-Voltage Detection ACTIVE) or red (Low-Voltage Detection DISABLED). The model is ready to drive.



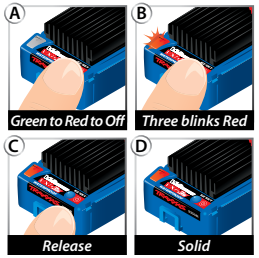
Selecting Race Mode (Profile #2: 100% Forward, 100% Brakes, No Reverse)

1. Connect a fully charged battery pack to the VXL-3s and turn on your transmitter.
2. With the VXL-3s off, press and hold the EZ-Set button until the LED turns solid green, then solid red and then begins blinking red (indicating the Profile numbers).
3. When the LED blinks red twice, release the EZ-Set button.
4. The LED will blink and then turn solid green (Low-Voltage Detection ACTIVE) or red (Low-Voltage Detection DISABLED). The model is ready to drive.



Selecting Training Mode (Profile #3: 50% Forward, 100% Brakes, 50% Reverse)

1. Connect a fully charged battery pack to the VXL-3s and turn on your transmitter.
2. With the VXL-3s off, press and hold the EZ-Set button until the LED turns solid green, then solid red and then begins blinking red (indicating the Profile numbers).
3. When the LED blinks red three times, release the EZ-Set button.



4. The LED will blink and then turn solid green (Low-Voltage Detection ACTIVE) or red (Low-Voltage Detection DISABLED). The model is ready to drive.

Note: If you missed the mode you wanted, keep the EZ-Set button pressed down and the blink cycle will repeat until the button is released and a Mode is selected.

LED Codes and Protection Modes

- **Solid Green**: VXL-3s power-on light. Low-Voltage Detection is ACTIVATED (LiPo setting).

- **Solid Red**: VXL-3s power-on light. Low-Voltage Detection is DISABLED (NiCad/NiMH setting). **Never use LiPo batteries while Low-Voltage Detection is disabled.**

- **Slow Blinking Red** (with Low-Voltage Detection on): The VXL-3s has entered **Low-Voltage Protection**. When the battery voltage begins to reach the minimum recommended discharge voltage threshold for LiPo battery packs, the VXL-3s will limit the power output to 50% throttle. When the battery voltage attempts to fall below the minimum threshold, the VXL-3s will shut down all motor output. The LED on the speed control will slowly blink red, indicating a low-voltage shutdown. The VXL-3s will stay in this mode until a fully charged battery is connected.

- **Fast Blinking Red**: Thermal Shutdown Protection Stage 1. If the motor has *lower than normal power* and the VXL-3s is hot, the VXL-3s has entered **Stage 1 Thermal Shutdown Protection** to guard against overheating caused by excessive current flow. If the motor has *no power* and the VXL-3s is very hot, the VXL-3s has entered **Stage 2 Thermal Shutdown Protection** and has automatically shut down. Let the VXL-3s cool. Make sure your model is properly geared for the conditions (*see page 25*).

- **Very Fast Blinking Red**: Thermal Shutdown Protection and Low Voltage Protection (*see above*) have occurred at the same time.

- **Alternating; Blinks Red then Green**: If the motor has *no power*, the VXL-3s has entered **Over Voltage Protection**. If a battery with too high voltage is used, the VXL-3s will go into a fail-safe mode. **WARNING**: If input voltage exceeds approximately 20-volts, the ESC may be damaged. Do not exceed 12.6 maximum peak input voltage.

- **Blinking Green**: The VXL-3s is indicating the transmitter Throttle Trim (*see page 26*) is incorrectly set. If the Multi-Function knob is set to throttle trim, then adjust the Throttle Trim to the middle "0" setting.

Patented Training Mode (Profile #3) reduces forward and reverse throttle by 50%. Training Mode is provided to reduce the power output allowing beginning drivers to better control the model. As driving skills improve, simply change to Sport or Race Mode for full-power operation.

Tip For Fast Mode Changes
The VXL-3s is set to Profile 1 (Sport Mode) as the default. To quickly change to Profile 3 (Training Mode), with the transmitter on, press and hold the SET button until the light blinks red three times and then release.
For full power, quickly change back to Profile 1 (Sport Mode) by pressing and holding the SET button until the light blinks red one time and then releasing.

The VXL-3s has built in programming that prevents accidental activation of reverse while in forward motion and vice-versa. You must come to a complete stop, release the throttle trigger, then apply opposite throttle to engage the motor in the desired direction.

Now it's time to have some fun! This section contains instructions on driving and making adjustments to your model. Before you go on, here are some important precautions to keep in mind.

- Allow the model to cool for a few minutes between runs. This is particularly important when using high capacity battery packs that allow extended periods of running. Monitoring temperatures will extend the lives of the batteries and motors. See page 25 for advanced user information on monitoring temperatures.
- Do not continue to operate the model with low batteries or you could lose control of it. Indications of low battery power include slow operation, sluggish servos (slow to return to center), or ESC shutdown due to the Low-Voltage Detection circuitry. Stop immediately at the first sign of weak batteries. When the batteries in the transmitter become weak, the red power light will begin to flash. Stop immediately and install new batteries.
- Do not drive the model at night, on public streets, or in large crowds of people.
- If the model becomes stuck against an object, do not continue to run the motor. Remove the obstruction before continuing. Do not push or pull objects with the model.
- Because the model is controlled by radio, it is subject to radio interference from many sources beyond your control. Since radio interference can cause momentary losses of control, allow a safety margin of space in all directions around the model in order to prevent collisions.
- Use good, common sense whenever you are driving your model. Intentionally driving in an abusive and rough manner will only result in poor performance and broken parts. Take care of your model so that you can enjoy it for a long time to come.
- When using the supplied optional pinion for top speed running, limit your driving to paved surfaces only. Running in grass and off-road could cause excessive loads on the electrical system in the model.
- High performance vehicles produce small vibrations which may loosen hardware over time. Frequently check wheel nuts and other screws on your vehicle to ensure that all hardware remains properly tightened.

About Run Time

A large factor affecting run time is the type and condition of your batteries. The milliamp hour (mAh) rating of the batteries determines how large their "fuel tank" is. A 3000 mAh battery pack will theoretically run twice as long as a 1500 mAh sport pack. Because of the wide variation in the types of batteries that are available and the methods with which they can be charged, it's impossible to give exact run times for the model.

Another major factor which affects run time is how the model is driven. Run times may decrease when the model is driven repetitively from a stop to top-speed and with repetitive hard acceleration.

Tips for Increasing Run Time

- Use batteries with the highest mAh rating you can purchase.
- Use a high-quality peak-detecting charger.
- Read and follow all maintenance and care instructions provided by the manufacturer of your batteries and charger.
- Use the correct Low-Voltage Detection setting for your battery (*see page 18*). Low-Voltage Detection can be off for maximum NiMH battery runtime. Never use LiPo batteries while Low-Voltage Detection is turned off.
- Keep the VXL-3s cool. Get plenty of airflow across the ESC heat sinks.
- Lower your gear ratio. Installing a smaller pinion or larger spur gear will lower your gear ratio, causing less power draw from the motor and battery, and reducing overall operating temperatures.
- Maintain your model. Do not allow dirt or damaged parts to cause binding in the drivetrain. Keep the motor clean.

mAh Ratings and Power Output

The mAh rating of the battery can effect your top speed performance. The higher capacity battery packs experience less voltage drop under heavy load than low mAh rated packs. The higher voltage potential allows increased speed until the battery begins to become discharged.

RUNNING IN WET CONDITIONS

Your new Traxxas model is designed with water-resistant features to protect the electronics in the model (receiver, servos, electronic speed control). This gives you the freedom to have fun driving your model through puddles, wet grass, snow, and through other wet conditions. Though highly water resistant, the model should not be treated as though it is submersible or totally, 100% waterproof. Water resistance applies only to the installed electronic components. Running in wet conditions requires additional care and maintenance for the mechanical and electrical components to prevent corrosion of metal parts and maintain their proper function.

Precautions

- **Without proper care, some parts of your model can be seriously damaged due to contact with water. Know that additional maintenance procedures will be required after running in wet conditions in order to maintain the performance of your model. Do not run your model in wet conditions if you are not willing to accept the additional care and maintenance responsibilities.**
- **Not all batteries can be used in wet environments.** Consult your battery manufacturer to see if their batteries can be used in wet conditions. Do not use LiPo batteries in wet conditions.
- The Traxxas TQi transmitter is not water resistant. Do not subject it to wet conditions such as rain.
- Do not operate your model during a rain storm or other inclement weather where lightning may be present.
- Do NOT allow your model to come in contact with salt water (ocean water), brackish water (between fresh water and ocean water), or other contaminated water. Salt water is highly conductive and highly corrosive. Use caution if you plan to run your model on or near a beach.
- Even casual water contact can reduce the life of your motor. Special care must be taken to modify your gearing and/or your driving style in wet conditions to extend the life of the motor (details follow).

Before Running Your Vehicle in Wet Conditions

1. Consult the section "After Running Your Vehicle in Wet Conditions" before proceeding. Make sure you understand the additional maintenance required with wet running.
2. The wheels have small holes molded in to allow air to enter and exit the tire during normal running. Water will enter these holes and get trapped inside the tires if holes are not cut in the tires. Cut two small holes (3mm or 1/8" diameter) in each tire. Each hole should be near the tire centerline, 180 degrees apart.
3. Confirm that the RX box O-ring and cover are installed correctly and secure. Make sure the screws are tight and the blue O-ring is not visible protruding from the edge of the cover.
4. Confirm that your batteries can be used in wet conditions.
5. Use lower gearing (smaller pinion gears, as low as 12T or spur gear as large as 90T) when running in mud, deep puddles, snow, or other similar situations that will restrict the tires and put much higher loads on the motor.

Motor Precautions

- Velineon motor life can be greatly reduced in mud and water. If the motor gets excessively wet or submerged, use very light throttle (run the motor slowly) until the excess water can run out. Applying full throttle to a motor full of water can cause rapid motor failure. Your driving habits will determine motor life with a wet motor. Do not submerge the motor under water.
- Do not gear the motor by temperature when running in wet conditions. The motor will be cooled by water contact and will not give an accurate indication of appropriate gearing.

After Running Your Vehicle in Wet Conditions

1. Drain the tires by spinning the tires at high speed to "sling" the water out. One way to do this is to make several high-speed passes on a flat, dry surface, if possible.
2. Remove the batteries.
3. Rinse excess dirt and mud off the truck with low-pressure water, such as from a garden hose. Do NOT use pressure washer or other high-pressure water. Avoid directing water into the bearings, transmission, etc.
4. Blow off the truck with compressed air (optional, but recommended). Wear safety glasses when using compressed air.
5. Remove the wheels from the truck.
6. Spray all the bearings, drivetrain, and fasteners with WD-40® or similar water displacing light oil.
7. Let the truck stand or you may blow off with compressed air. Placing the truck in a warm sunny spot will aid drying. Trapped water and oil will continue to drip from the truck for a few hours. Place it on a towel or piece of cardboard to protect the surface underneath.
8. As a precautionary step, remove the sealed receiver box cover. While unlikely, humidity or tiny amounts of moisture or condensation may enter the receiver box during wet running. This can cause long-term problems with the sensitive electronics in the receiver. Removing the receiver box cover during storage allows the air inside to dry. This step can improve the long-term reliability of the receiver. It is not necessary to remove the receiver or unplug any of the wires.
9. **Additional Maintenance**: Increase your frequency of disassembly, inspection and lubrication of the following items: This is necessary after extended wet use or if the vehicle will not be used for an extended period of time (such as a week or longer). This additional maintenance is needed to prevent any trapped moisture from corroding internal steel components.
   - **Stub axle housing bearings**: Remove, clean, and re-oil the bearings.
   - **Transmission**: Remove, disassemble, clean, and re-grease the transmission components. Use a light coating of wheel bearing grease (from an auto parts store) on the metal gear teeth. Refer to your exploded view diagrams for help with disassembly and reassembly.
   - **Velineon motor**: Remove the motor, clean with aerosol motor cleaner, and re-oil the bearings with lightweight motor oil. Be sure to wear eye protection when using spray aerosol cleaners.

RECEIVER BOX: MAINTAINING A WATERTIGHT SEAL

Removing and Installing Radio Gear

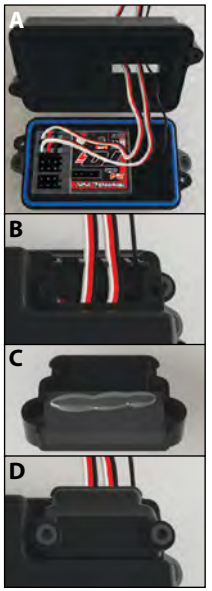
The unique design of the receiver box allows the removal and installation of the receiver without losing the ability to maintain a watertight seal in the box. The patent-pending wire clamp feature gives you the ability to also install aftermarket radio systems and maintain the watertight features of the receiver box.

Removing the Receiver

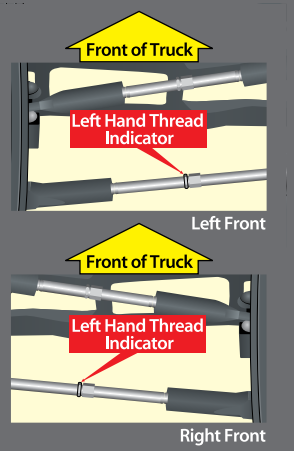
1. Remove the wire clamp by removing the two 2.5x8mm cap screws.
2. Remove the cover by removing the two 3x10mm cap screws.
3. To remove the receiver from the box simply lift it out and set to the side. The antenna wire is still inside the clamp area and cannot be removed yet.
4. Unplug the servo cables from the receiver and remove the receiver.

Receiver Installation

1. Install the electronic speed control (ESC), servo, and antenna wiring through the receiver box top (A). Make sure the box light pipe is aligned with the receiver LED.
2. Plug ESC and servo wires into the receiver (*see page 12*).
3. Bundle wiring as necessary.
4. Make sure the O-ring is properly seated into the groove in the receiver box bottom so that the cover will not pinch it or damage it in any way.
5. Place receiver box top onto receiver box bottom and install and tighten the two 3x10mm cap screws securely.
6. Inspect the cover to make sure that the O-ring seal is not visible.
7. Arrange the wires neatly using the wire guides on the receiver box top (B). Excess ESC and servo wiring should be bundled inside the receiver box. Pull out all available antenna wiring from the receiver box.
8. Apply a small bead of silicone grease to the foam on the wire clamp (C).
9. Install the wire clamp and tighten the two 2.5x8mm cap screws securely (D).

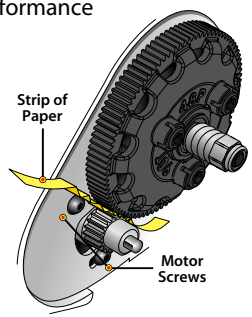


All of the toe links are installed on the truck so the left hand thread indicators point to the same direction. This makes it easier to remember which way to turn the wrench to increase or decrease toe link length (the direction is same at all four corners). Note that the groove in the hex indicates the side of the toe link with the left-hand threads.



Once you become familiar with driving your model, you might need to make adjustments for better driving performance

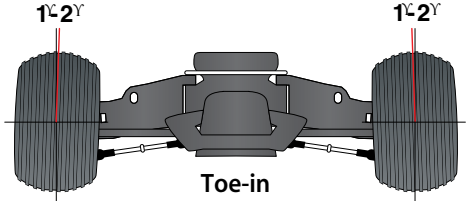
Adjusting Gear Mesh



Incorrect gear mesh is the most common cause of stripped spur gears. Gear mesh should be checked and adjusted anytime a gear is replaced. To set the gear mesh, cut a narrow strip of notebook paper and run it into the gear mesh. Loosen the motor screws and slide the motor and pinion gear into the spur gear. Retighten the motor screws and then remove the strip of paper. You should be able to run a fresh strip of paper through the gears without binding them.

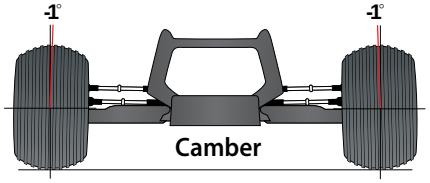
Adjusting the Toe-in

Geometry and alignment specs play an important roll in your model's handling. Take the time to set them correctly. Set the steering trim on your transmitter to neutral. Now, adjust your servo and tie rods so that both wheels are pointing straight ahead and are parallel to each other (0-degrees toe-in). This will ensure the same amount of steering in both directions.



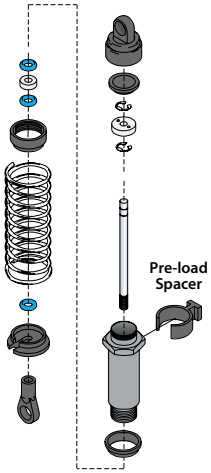
For increased stability add one- to two-degrees of toe in to each front wheel. Use the turnbuckles to adjust the alignment.

Adjusting the Camber



The camber angle of both the front and rear wheels can be adjusted with the camber rods (upper turnbuckles). Use a square or right-angle triangle to set the camber accurately. Adjust the front wheels to 0 degrees of camber (wheel perpendicular to the ground). In the rear, adjust the wheels to 1 to 2 degrees of negative camber. These adjustments should be set with the truck positioned at its normal ride height.

Fine Tuning the Shocks



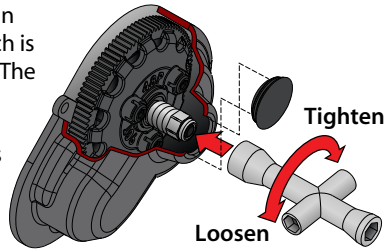
The four shocks on the model greatly influence its handling. Whenever you rebuild your shocks, or make any changes to the pistons, springs or oil, always make changes to them in pairs (front or rear). Piston selection depends on the range of oil viscosities that you have available. For example, using a two-hole piston with a lightweight oil will, at one point, give you the same damping as a three-hole piston with heavier oil. We recommend using the two-hole pistons with a range of oil viscosities from 10W to 50W (available from your hobby shop). The thinner viscosity oils (30W or less) flow more smoothly and are more consistent, while thicker oils provide more damping. Use only 100% pure silicone shock oil to prolong seal life. The model's ride height can be adjusted by adding or removing the clip-on, spring pre-load spacers. Adjust the ride height so that the suspension arms are slightly above being parallel to the ground. Observe how the model handles in turns. Proper set-up will add stability and help prevent spin outs. Experiment with different springs and shock oils to find what works best for your current track conditions.

Wheels and Tires

Many types of aftermarket tires and wheels can be adapted for use on your model. Most will affect the overall width and the suspension geometry of the model. The offsets and dimensions designed into the model's wheels are intentional; therefore, Traxxas cannot recommend the use of other non-Traxxas wheels with different specifications. The diameter of the wheels is an innovative design, and there are a variety of different tires available for you to experiment with in addition to the included tires on the model (listed in your parts list). Experimentation with different types of tires is recommended to see which ones work the best on the terrain where the model is run. When selecting tires, consider the overall diameter and the rubber compound (hard or soft). If the overall diameter of the tire is significantly increased, you will need to use a smaller pinion gear to compensate for the larger tire. Soft compound tires with many short spikes generally work better on

hard, dry surfaces. In loose dirt, a tire with large spikes should perform better. See your parts list for accessory wheels and tires.

Adjusting the Slipper Clutch



The model is equipped with an adjustable slipper clutch which is built into the large spur gear. The purpose of the slipper clutch is to regulate the amount of power sent to the rear wheels to prevent tire spin. When it slips, the slipper clutch makes a high-pitch, whining noise. Remove the rubber slipper clutch plug on the transmission cover in order to adjust the slipper. Use the 4-way wrench to turn the adjusting nut clockwise to tighten and counter-clockwise to loosen. Place the model on a high-traction surface, such as carpet. Adjust the slipper so that you can hear it slip for approximately two feet from a standing, full throttle start. (Learn more about adjusting the slipper clutch in the sidebar.)

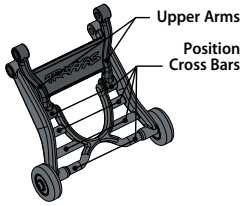
Centering Your Servo

If you have removed the servo horn from your model's steering servo, or the servo has been removed for service or cleaning, the servo must be re-centered prior to installation of the servo horn or installation of the servo in the model.

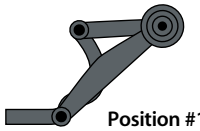
1. Remove the servo horn from the steering servo.
2. Connect the steering servo to channel 1 on the receiver. Connect the electronic speed control (ESC) to channel 2. The white wire on the servo lead is positioned towards the receiver's LED.
3. Turn the transmitter power switch on. Make certain the transmitter's batteries are not depleted.
4. Turn the transmitter's steering trim knob to the center "0" position.
5. Disconnect motor wires "A" and "C" (see page 12) to prevent the motor from turning during the next steps. Connect a fresh battery pack to the speed control and turn on the ESC (see page 15). The servo's output shaft will automatically jump to its center position.
6. Install the servo horn onto the servo output shaft. The servo horn should face toward the center of the chassis and be perpendicular to the servo body.
7. Check servo operation by turning the steering wheel back and forth to ensure that the mechanism has been centered properly and you have equal throw in both directions. Use the transmitter's steering trim knob to fine-tune the position of the servo horn so the model tracks straight when the steering wheel is at neutral.

Stampede VXL Wheelie Bar Set-up

The Traxxas wheelie bar comes standard with the Stampede VXL. It is available as a bolt-on accessory (Part #3678) for the Rustler VXL and Bandit VXL. See your local hobby dealer for more information.



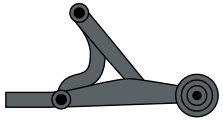
Changing the position of the wheelie bar height setting is easiest when installed on the vehicle. To set the position, unsnap the upper arms from the cross bars of the lower arms. Move the upper arms to the desired location, and then snap the arms together.


Position #1

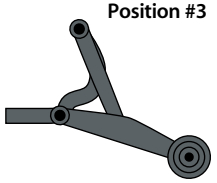
Pos. #1: The highest angle of the wheels (lowest position on the cross bars). Allows the vehicle to tip back the most for longer wheelies.

Position #2

Pos. #4: The lowest angle of the wheels (highest position on the cross bars). Provides the flattest launches, reducing the chance of a wheelie.


Position #3

Note: Each setting can offer different results based on the individual ride height and droop settings of a particular vehicle. Try to avoid riding on the wheelie bar wheels during normal driving (this can happen in the lowest setting with lower than stock ride heights).

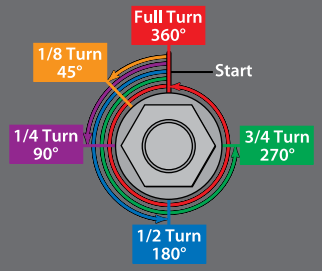

Position #4

If you have questions or need technical assistance, call Traxxas at

1-888-TRAXXAS

(1-888-872-9927) (U.S. residents only)

To achieve a good starting point for the slipper clutch in these models, tighten the slipper clutch adjusting nut clockwise until the slipper clutch adjusting spring fully collapses (do not over tighten), and then turn the slipper clutch nut counter-clockwise one full turn.



Do not run your model with the slipper clutch adjusting spring fully compressed. The minimum recommended slipper clutch setting is 1/2 turn counter-clockwise from fully compressed.

Always wear eye protection when using compressed air or spray cleaners and lubricants.

High performance vehicles generate small vibrations while driving. These vibrations may loosen hardware over time and require attention. Always check your wheel nuts and other hardware and tighten or replace when necessary.

Always use the proper length motor bolts. The standard motor mounting bolts are 3x8mm. Using motor bolts that are too long can interfere with the motor's rotation and damage the motor's internals!

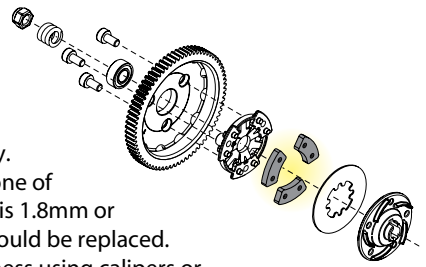
Your model requires timely maintenance in order to stay in top running condition. **The following procedures should be taken very seriously.**

Frequently inspect the vehicle for obvious damage or wear. Look for:

1. Cracked, bent, or damaged parts
2. Check the wheels and steering for binding.
3. Check the operation of the shock absorbers.
4. Check the wiring for any frayed wires or loose connections.
5. Check the mounting of the receiver and servo(s) and speed control.
6. Check the tightness of the wheel nuts with a wrench.
7. Check the operation of the radio system, especially the condition of the batteries.
8. Check for any loose screws in the chassis structure or suspension.
9. The steering servo saver will wear out over time. If the steering becomes loose, the servo saver should be replaced.
10. Inspect the gears for wear, broken teeth, or debris lodged between the teeth.
11. Check the tightness of the slipper clutch.

Other periodic maintenance:

- **Slipper clutch pads** (friction material): Under normal use, the friction material in the slipper clutch should wear very slowly. If the thickness of any one of the slipper clutch pads is 1.8mm or less, the friction disc should be replaced. Measure the pad thickness using calipers or measuring against the diameter of the 1.5 and 2.0mm hex wrenches provided with the model.



- **Chassis**: Keep the chassis clean of accumulated dirt and grime. Periodically inspect the chassis for damage
- **Steering**: Over time, you may notice increased looseness in the steering system. There are several components that will wear out from use: the servo saver, the tie rod ends, and the bellcrank bushings (Rustler and Bandit only). Replace these components as needed to restore factory tolerances. The bell crank bushings may be replaced with 5x8mm ball bearings. See the parts list included with your model for replacement part number
- **Shocks**: Keep the oil level in the shocks full. Use only 100% pure silicon shock oil to prolong the life of the seals. If you are experiencing leakage around the top of the shock, inspect the bladder in the top cap for signs of damage or distortion from overtightening. If the bottom of the shock is leaking, then it is time for a rebuild. The Traxxas rebuild kit for two shocks is part #2362.
- **Suspension**: Periodically inspect the model for signs of damage such as bent or dirty suspension pins, bent turnbuckles, loose screws, and any signs of stress or bending. Replace components as needed.
- **Driveline**: Inspect the driveline for signs of wear such as worn drive yokes, dirty axle half shafts, and any unusual noise or binding. If a u-joint pops apart then it is time to replace the part. Remove the gear cover and Inspect the spur gear for wear and check the tightness of set screws in the pinion gears. Tighten, clean, or replace components as needed.

Storage

When you are through running the model for the day, blow it off with compressed air or use a soft bristled paint brush to dust-off the vehicle.

Always disconnect and remove the battery from the model whenever the model is stored. If the model will be stored for a long time, then also remove the batteries from the transmitter.

Gearing

One of the more significant advantages to your model's transmission is the extremely wide range of available gear ratios. Changing the gearing allows you to fine tune the speed of the model and control the temperatures of the battery pack and motor. Use a lower gear ratio (numerically larger) to reduce current draw and temperatures. Use a higher gear (numerically lower) to increase top speed. Use the following formula to calculate the overall ratio for combinations not listed on the gear chart:

$$\frac{\text{\# Spur Gear Teeth}}{\text{\# Pinion Gear Teeth}} \times 2.72 = \text{Final Gear Ratio}$$

When using higher gear ratios, it is important to monitor the temperatures of the battery and motor. If the battery is extremely hot, and/or the motor is too hot to touch, your model is probably over-geared and drawing too much current. This temperature test assumes that the model is close to factory stock weight and operates freely with no excessive friction, dragging, or binding, and the battery is fully charged and in good condition. **Note**: Check and adjust gear mesh if a spur and/or pinion gear is changed.

This model is equipped with a Velineon 3500 motor. The gear combination that comes stock on each model provides good overall acceleration and top speed. If you want more top speed install the included optional large pinion gear (more teeth). **The included optional large pinion gear is intended for high-speed running on hard surfaces, and this gearing is not recommended for off-road or repetitive starting and stopping.**

LiPo Batteries

LiPo batteries are intended only for the most advanced users that are educated on the risks associated with LiPo battery use. It is critical to follow all instructions supplied by the battery manufacturer and the charger manufacturer for proper charging, use, and storage of LiPo batteries. Make sure you understand how to use your LiPo batteries. See *Safety Precautions* and warnings on page 4 for more information..

Temperatures and Cooling

Monitoring temperatures will extend the lives of the batteries and motors. There are many options available that will help you monitor temperatures and cool your components .

Temperature sensor

To accurately monitor motor temperature and prevent overheating, a telemetry temperature sensor (part #6523) can be installed on the motor to continually monitor temperature as you drive. Generally, try to keep your motor below 200° F. If necessary, increase airflow to the motor by cutting out the rear of the body or windshield.

Heat sink cooling fan

The VXL-3s is equipped with an additional connector to supply power to an optional heat sink cooling fan (part #3340). The optional heat sink cooling fan can assist in cooling the VXL-3s in high current motor applications.

Speed	Bandit VXL	35+mph	45+mph	65+mph	70mph & Beyond
	Rustler VXL	35+mph	45+mph	65+mph	70mph & Beyond
	Stampede VXL	30+mph	40+mph	60+mph	65mph & Beyond
Gearing (pinion/spur)	Bandit VXL	26/76	28/76 (Included)	33/76 (Sold Separately)	33/76 (Sold Separately)
	Rustler VXL	25/83	28/83 (Included)	31/76 (Sold Separately)	31/76 (Sold Separately)
	Stampede VXL	19/86	25/86 (Included)	26/86 (Sold Separately)	30/83 (Sold Separately)
Battery		6-Cell NiMH	7-Cell NiMH	3S 20C LiPo	3S 20C LiPo
Nominal Voltage		7.2V	8.4V	11.1V	11.1V
mAh		3000+ mAh	4000+ mAh	4000+ mAh	8000+ mAh
Skill Level		1	2	5	5

Gearing Compatibility Chart:
The chart below shows recommended gear combination ranges when using a NiMH battery pack to power your model. In the red range, use a battery that has a continuous rating of at least 70A.

Pinion Gear \ Spur Gear	76	83	86	90
12	-	-	19.50	20.40
13	-	-	18.01	18.82
14	-	-	16.70	17.49
15	-	15.04	15.58	16.32
16	-	14.12	14.63	15.31
17	-	13.27	13.76	14.39
18	-	12.54	13.00	13.60
19	-	11.89	12.32	12.89
20	-	11.28	11.69	12.24
21	-	10.75	11.14	11.66
22	9.38	10.25	10.63	11.12
23	8.97	9.82	10.17	10.63
24	8.62	9.41	9.74	10.20
25	8.27	9.03	9.36	9.79
26	7.94	8.67	9.00	-
27	7.64	8.35	8.67	-
28	7.37	8.05	8.35	-
29	7.12	7.78	8.08	-
30	6.88	7.53	-	-
31	6.66	7.29	-	-
32	6.47	7.04	-	-
33	6.26	-	-	-
34	6.09	-	-	-
35	5.90	-	-	-

Thick black border indicates stock settings.

Use NiMH batteries with:

- All Models
- Only Bandit VXL and Rustler VXL
- Only Bandit VXL
- Do Not Use NiMH (battery must have a continuous rating of at least 70A. Consult with your hobby dealer or battery manufacturer.)

Starting Over: Restoring Factory Defaults

When programming your TQi transmitter, you may feel the need to start over with a clean slate. Follow these simple steps to restore the factory settings:

1. Turn transmitter off.
2. Hold both MENU and SET.
3. Turn transmitter on.
4. Release MENU and SET. The transmitter LED will blink red.
5. Press MENU once. The transmitter LED will blink red twice repeatedly.
6. Press SET to clear settings. The LED will turn solid green and the transmitter is restored to default.

Throttle Trim Seek Mode

When the Multi-Function knob is set to throttle trim, the transmitter remembers the throttle trim setting. If the throttle trim knob is moved from the original setting while the transmitter is off, or while the transmitter was used to control another model, the transmitter ignores the actual position of the trim knob. This prevents the model from accidentally running away. The LED on the face of the transmitter will rapidly blink green and the throttle trim knob (Multi-Function knob) will not adjust the trim until it is moved back to its original position saved in memory. To restore throttle trim control, simply turn the multi-function knob either direction until the LED stops blinking.

Your Traxxas transmitter has a programmable Multi-Function knob that can be set to control various advanced transmitter functions (set to Steering Sensitivity by default, see page 17). Accessing the programming menu is done by using the menu and set buttons on the transmitter and observing signals from the LED. An explanation of the menu structure follows on page 28. Experiment with the settings and features to see if they can improve your driving experience.

Throttle Sensitivity (Throttle Exponential)
The Multi-Function knob can be set to control Throttle Sensitivity. Throttle Sensitivity works the same way as Steering Sensitivity as described on page 17, but applies the effect to the throttle channel. Only forward throttle is affected; brake/reverse travel remains linear regardless of the Throttle Sensitivity setting.

Steering Percentage (Dual Rate)
The Multi-Function knob can be set to control the amount (percentage) of servo travel applied to steering. Turning the Multi-Function knob fully clockwise will deliver maximum steering throw; turning the knob counter-clockwise reduces steering throw (note: turning the dial counter-clockwise to its stop will eliminate all servo travel). Be aware that the steering End Point settings define the servo's maximum steering throw. If you set Steering Percentage to 100% (by turning the Multi-Function knob fully clockwise), the servo will travel all the way to its selected end point, but not past it. Many racers set Dual Rate so they have only as much steering throw as they need for the track's tightest turn, thus making the model easier to drive throughout the rest of the course. Reducing steering throw can also be useful in making a model easier to control on high-traction surfaces, and limiting steering output for oval racing where large amounts of steering travel are not required.

Braking Percentage
The Multi-Function knob may also be set to control the amount of brake travel applied by the servo in a nitro-powered model. Electric models do not have a servo-operated brake, but the Braking Percentage function still operates the same way in electric models. Turning the Multi-Function knob full clockwise will deliver maximum brake throw; turning the knob counter-clockwise reduces brake throw (**Note**: Turning the dial counter-clockwise to its stop will eliminate all brake action).

Throttle Trim
Setting the Multi-Function knob to serve as throttle trim will allow you to adjust the throttle's neutral position to prevent unwanted brake drag or throttle application when the transmitter trigger is at neutral. **Note**: Your transmitter is equipped with a Throttle Trim Seek mode to prevent accidental runaways. See the sidebar for more information.

Steering and Throttle End Points
The TQi transmitter allows you to choose the limit of the servo's travel range (or its "end point") independently for left and right travel (on the steering channel) and throttle/brake travel (on the throttle channel). This allows you to fine-tune the servo settings to prevent binding caused by the servo moving steering or throttle linkages (in the case of a nitro model) farther than their mechanical limits. The end point adjustment settings you select will represent what you wish to be the servo's maximum travel; the Steering Percentage or Braking Percentage functions will not override the End Point settings.

Steering and Throttle Sub-Trim
The Sub-Trim function is used to precisely set the neutral point of the steering or throttle servo in the event that simply setting the trim knob to "zero" does not completely center the servo. When selected, Sub-Trim allows finer adjustment to the servo output shaft's position for precise setting of the neutral point. Always set the Steering Trim knob to zero before making final adjustment (if required) using Sub-Trim. If Throttle Trim has been previously adjusted, the Throttle Trim will need to be reprogrammed to "zero" before making final adjustment using Sub-Trim.

Setting Lock
Once you've adjusted all of these settings the way you like them, you may want to disable the Multi-Function knob so none of your settings can be changed. This is especially handy if you operate multiple vehicles with a single transmitter via Traxxas Link™ Model Memory.

Multiple Settings and the Multi-Function Knob
It is important to note that settings made with the Multi-Function knob are "overlaid" on top of each other. For example, if you assign the Multi-Function to adjust Steering Percentage and set it for 50%, then reassign the knob to control Steering Sensitivity, the transmitter will "remember" the Steering Percentage setting. Adjustments you make to Steering Sensitivity will be applied to the 50% steering throw setting you selected previously. Likewise, setting the Multi-Function knob to "disabled" will prevent the knob from making further adjustments, but the last setting of the Multi-Function knob will still apply.

TRAXXAS LINK MODEL MEMORY

Traxxas Link Model Memory is an exclusive, patent-pending feature of the TQi transmitter. Each time the transmitter is bound to a new receiver, it saves that receiver in its memory along with all the settings assigned to that receiver. When the transmitter and any bound receiver are switched on, the transmitter automatically recalls the settings for that receiver. There is no need to manually select your vehicle from a list of model memory entries.

Model Lock
The Traxxas Link Model Memory feature can store up to twenty models (receivers) in its memory. If you bind a twenty-first receiver, Traxxas Link Model Memory will delete the "oldest" receiver from its memory (in other words, the model you used the longest time ago will be deleted). Activating Model Lock will lock the receiver in memory so it cannot be deleted.

You may also bind multiple TQi transmitters to the same model making it possible to pick up any transmitter and any previously bound model in your collection and simply turn them on and drive. With Traxxas Link Model Memory, there is no need remember which transmitter goes with which model and there is never a need to have to select any model from a list of model memory entries. The transmitter and receiver do it all for you automatically.

To activate Model Lock:
1. Switch on the transmitter and receiver you wish to lock.
2. Press and hold MENU. Release when the status LED blinks green.
3. Press MENU three times. The status LED will blink green four times repeatedly.
4. Press SET. The status LED will blink green in single-flash intervals.
5. Press SET once. The status LED will blink red once repeatedly.
6. Press MENU once, the LED will blink red twice repeatedly.
7. Press SET, the LED will blink rapidly green. The memory is now locked. Press and hold MENU to return to driving mode.
   Note: To unlock a memory, press SET twice at step 5. The LED will blink rapidly green to indicate the model is unlocked. To unlock all models, press MENU twice at step 6 and then press SET.

To delete a model:
At some point, you may wish to delete a model you no-longer drive from the memory.
1. Switch on the transmitter and receiver you wish to delete.
2. Press and hold MENU. Release when the status LED blinks green.
3. Press MENU three times. The status LED will blink green four times repeatedly.
4. Press SET once. The status LED will blink green once repeatedly.
5. Press MENU once. The status LED will blink green twice repeatedly.
6. Press SET. The memory is now selected to be deleted. Press SET to delete the model. Press and hold MENU to return to driving mode.

TRANSMITTER LED CODES

LED Color / Pattern	Name	Notes
Solid green	Normal Driving Mode	See page 15 for information on how to use your transmitter controls.
Slow red (0.5 sec on / 0.5 sec off)	Binding	See page 16 for more information on binding.
Flashing fast green (0.1 sec on / 0.15 sec off)	Throttle Trim Seek Mode	Turn the Multi Function knob right or left until the LED stops flashing. See page 26 for more information.
Flashing medium red (0.25 sec on / 0.25 sec off)	Low Battery Alarm	Put new batteries in the transmitter. See page 13 for more information.
Flashing fast red (0.125 sec on / 0.125 sec off)	Link Failure / Error	Transmitter and receiver are no longer bound. Turn the system off and then back on to resume normal operation. Find source of the link failure (ie out of range, low batteries, damaged antenna).
Programming Patterns		
or	Counts out number (green or red) then pauses	Current menu position	See Menu Tree for more information.
x8	Fast green 8 times	Menu setting accepted (on SET)	
x8	Fast red 8 times	Menu SET invalid	User error such as trying to delete a locked model.

RECEIVER LED CODES

LED Color / Pattern	Name	Notes
Solid green	Normal Driving Mode	See page 15 for information on how to use your transmitter controls.
Slow red (0.5 sec on / 0.5 sec off)	Binding	See page 16 for more information on binding.
Flashing fast red (0.125 sec on / 0.125 sec off)	Fail-Safe / Low Voltage Detect	Consistent Low Voltage in the receiver triggers Fail-Safe so there is enough power to center the throttle servo before it completely loses power.

Failsafe
Your Traxxas radio system is equipped with a built-in failsafe function that returns the throttle to its last saved neutral position in the event of a signal loss. The LED on the transmitter and the receiver will rapidly flash red.

MENU TREE

The menu tree below shows how to navigate through the TQi transmitter's various settings and functions. Press and hold MENU to enter the menu tree, and use the following commands to navigate through the menu and select options.

MENU: When you enter a menu, you always start at the top. Press MENU to move down the menu tree. When you reach the bottom of the tree, pressing MENU again will return you to the top.

SET: Press SET to move across the menu tree and select options. When an option is committed to the transmitter's memory, the status LED will rapidly blink green.

BACK: Press both MENU and SET to go back one level in the menu tree.

EXIT: Press and hold MENU to exit programming. Your selected options will be saved.

ECHO: Press and hold SET to activate the "echo" function. Echo will "play back" your current position on the Menu Tree, should you lose your place. For example: If your current position is Steering Channel End Points, holding SET will cause the LED to blink green twice, green once, and then red three times. Echo will not alter your adjustments or change your position in the programming sequence.

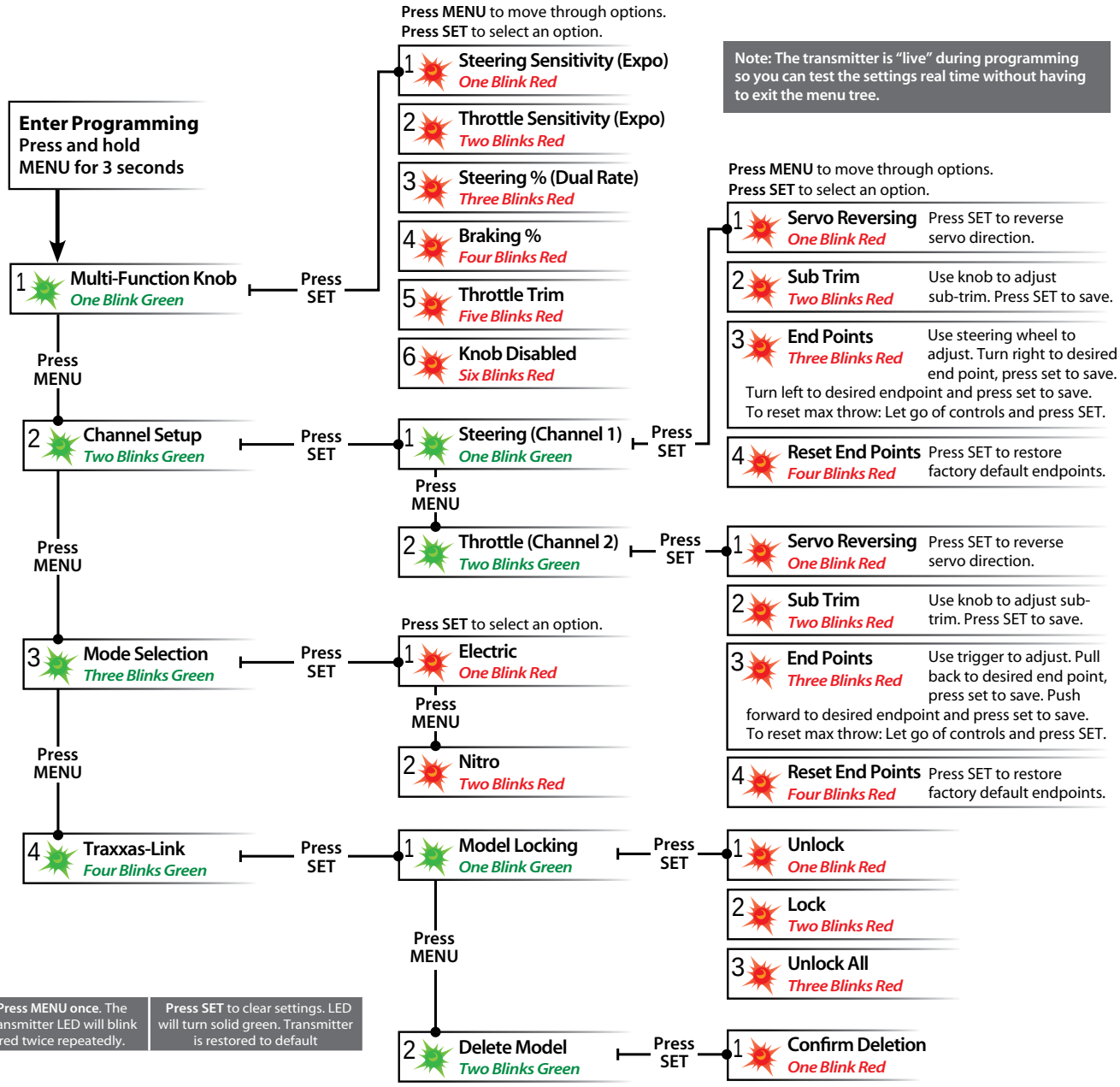
Below is an example of how to access a function in the menu tree. In the example, the user is setting the Multi-Function knob to be a steering Dual Rate control.

To set the Multi-Function knob to control STEERING DUAL RATE (%):

1. Switch the transmitter on
2. Press and hold MENU until the green LED lights. It will blink in single intervals.
3. Press SET. The red LED will blink in single intervals to indicate Steering Dual Rate has been selected.
4. Press MENU twice. The red LED will blink three times repeatedly to indicate Steering Percentage has been selected.
5. Press SET to select. The green LED will blink 8 times fast to indicate successful selection.
6. Press and hold MENU to return to driving mode.

Restoring Factory Defaults:

Transmitter OFF	**Hold both MENU and SET**	**Transmitter ON**	**Release MENU and SET** red LED blinks	**Press MENU once.** The transmitter LED will blink red twice repeatedly.	**Press SET** to clear settings. LED will turn solid green. Transmitter is restored to default


Enter Programming
Press and hold
MENU for 3 seconds
1 Multi-Function Knob
One Blink Green
Press SET
Press MENU to move through options.
Press SET to select an option.
1 Steering Sensitivity (Expo)
One Blink Red
2 Throttle Sensitivity (Expo)
Two Blinks Red
3 Steering % (Dual Rate)
Three Blinks Red
4 Braking %
Four Blinks Red
5 Throttle Trim
Five Blinks Red
6 Knob Disabled
Six Blinks Red
Press MENU
2 Channel Setup
Two Blinks Green
Press SET
1 Steering (Channel 1)
One Blink Green
Press SET
Press MENU to move through options.
Press SET to select an option.
1 Servo Reversing
One Blink Red
Press SET to reverse servo direction.
2 Sub Trim
Two Blinks Red
Use knob to adjust sub-trim. Press SET to save.
3 End Points
Three Blinks Red
Use steering wheel to adjust. Turn right to desired end point, press set to save. Turn left to desired endpoint and press set to save. To reset max throw: Let go of controls and press SET.
4 Reset End Points
Four Blinks Red
Press SET to restore factory default endpoints.
Press MENU
2 Throttle (Channel 2)
Two Blinks Green
Press SET
1 Servo Reversing
One Blink Red
Press SET to reverse servo direction.
2 Sub Trim
Two Blinks Red
Use knob to adjust sub-trim. Press SET to save.
3 End Points
Three Blinks Red
Use trigger to adjust. Pull back to desired end point, press set to save. Push forward to desired endpoint and press set to save. To reset max throw: Let go of controls and press SET.
4 Reset End Points
Four Blinks Red
Press SET to restore factory default endpoints.
Press MENU
3 Mode Selection
Three Blinks Green
Press SET
Press SET to select an option.
1 Electric
One Blink Red
Press MENU
2 Nitro
Two Blinks Red
Press MENU
4 Traxxas-Link
Four Blinks Green
Press SET
1 Model Locking
One Blink Green
Press SET
1 Unlock
One Blink Red
2 Lock
Two Blinks Red
3 Unlock All
Three Blinks Red
Press MENU
2 Delete Model
Two Blinks Green
Press SET
1 Confirm Deletion
One Blink Red

Note: The transmitter is "live" during programming so you can test the settings real time without having to exit the menu tree.

Set Multi-Function knob for STEERING SENSITIVITY (Expo)	**Press/hold MENU** green LED blinks	**Press SET** red LED blinks	**Press SET to confirm** green LED blinks (x8)	**Press/hold MENU** returns to driving mode					
Set Multi-Function knob for THROTTLE SENSITIVITY (Expo)	**Press/hold MENU** green LED blinks	**Press SET** red LED blinks	**Press MENU to confirm** red LED blinks (x2)	**Press SET to select** green LED blinks (x8)	**Press/hold MENU** returns to driving mode				
Set Multi-Function knob for STEERING DUAL RATE (%)	**Press/hold MENU** green LED blinks	**Press SET** red LED blinks	**Press MENU twice** red LED blinks (x3)	**Press SET to select** green LED blinks (x8)	**Press/hold MENU** returns to driving mode				
Set Multi-Function knob for BRAKING PERCENTAGE (%)	**Press/hold MENU** green LED blinks	**Press SET** red LED blinks	**Press MENU 3 times** red LED blinks (x4)	**Press SET to select** green LED blinks (x8)	**Press/hold MENU** returns to driving mode				
Set Multi-Function knob for THROTTLE TRIM	**Press/hold MENU** green LED blinks	**Press SET** red LED blinks	**Press MENU 4 times** red LED blinks (x5)	**Press SET to select** green LED blinks (x8)	**Press/hold MENU** returns to driving mode	Adjust the Multi-Function knob until the LED turns solid green.			
To LOCK the Multi-Function knob	**Press/hold MENU** green LED blinks	**Press SET** red LED blinks	**Press MENU 5 times** red LED blinks (x6)	**Press SET to lock** green LED blinks (x8)	**Press/hold MENU** returns to driving mode				
To REVERSE the direction of STEERING servo	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press SET** red LED blinks	**Press SET** to reverse servo direction	**Press/hold MENU** returns to driving mode			
To set the SUB TRIM of the STEERING servo	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press SET** red LED blinks	**Press MENU** red LED blinks (x2)	**Use Multi-Function knob** to set neutral	**Press SET** to save position	**Press/hold MENU** returns to driving mode	
To set the END POINTS of the STEERING servo	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press SET** red LED blinks	**Press MENU twice** red LED blinks (x3)	**Turn steering wheel** to desired max left and right travel	**Press SET** to save each position	**Turn steering wheel** to test settings	IF END POINTS ARE OK: **Press/hold MENU** returns to driving mode / IF END POINTS NEED TO BE CHANGED: **Press SET** and repeat steps 6-8
To reset the END POINTS of STEERING servo to defaults	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press SET** red LED blinks	**Press MENU 3 times** red LED blinks (x4)	**Press SET** to reset end points	**Press/hold MENU** returns to driving mode		
To REVERSE the direction of THROTTLE servo	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** red LED blinks	**Press SET** to reverse servo direction	**Press/hold MENU** returns to driving mode		
To set the SUB TRIM of the THROTTLE servo	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** red LED blinks	**Press MENU** red LED blinks (x2)	**Use Multi-Function knob** to set neutral	**Press SET** to save position	**Press/hold MENU** returns to driving mode
To set the END POINTS of the THROTTLE servo	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** red LED blinks	**Press MENU twice** red LED blinks (x3)	**Use throttle trigger** to set desired max throttle or brake	**Press SET** to save / Use trigger to test	IF END POINTS ARE OK: **Press/hold MENU** returns to driving mode / IF END POINTS NEED TO BE CHANGED: **Press SET** and repeat steps 7-9
To reset the END POINTS of THROTTLE servo to defaults	**Press/hold MENU** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** green LED blinks	**Press MENU** green LED blinks (x2)	**Press SET** red LED blinks	**Press MENU 3 times** red LED blinks (x4)	**Press SET** green LED blinks (x8)	**Press/hold MENU** returns to driving mode	

MENU TREE FORMULAS

To select functions and make adjustments to the TQi transmitter without referencing the menu tree, turn your transmitter on, find the function in the left column you wish to adjust, and simply follow the corresponding steps.

Always turn your transmitter on first.

The Traxxas Link Wireless Module is sold separately (part #6511). The Traxxas Link application is available from the Apple App store for iPhone, iPad, or iPod touch and on Google Play for Android devices. iPhone, iPad, iPod touch, or the Android device are not included with the Traxxas Link Wireless Module.

For more information about the Traxxas Link Wireless Module and the Traxxas Link application, visit Traxxas.com.

Download Now!

Available on the App Store

ANDROID APP ON Google play

PROGRAMMING YOUR TQi TRANSMITTER WITH YOUR APPLE iPHONE, iPAD, iPOD TOUCH, OR ANDROID MOBILE DEVICE

The Traxxas Link™ Wireless Module (part #6511, sold separately) for the TQi transmitter installs in minutes to transform your Apple® iPhone®, iPad®, iPod touch®, or Android™ device into a powerful tuning tool that allows you to replace the transmitter's button/LED programming system with an intuitive, high-definition, full-color graphical user interface.

Traxxas Link

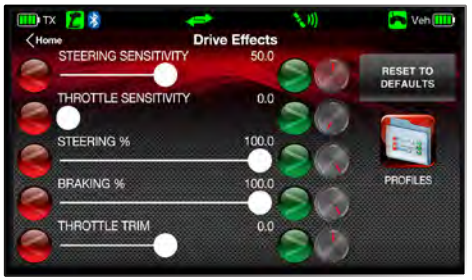
The powerful Traxxas Link app (available in the Apple App Store℠ or on Google Play™) gives you complete control over the operation and tuning of your Traxxas model with stunning visuals and absolute precision. Install Traxxas Link telemetry sensors on the model, and Traxxas Link displays real-time data such as speed, RPM, temperature, and battery voltage.

Compatible with:

iPod touch (5th generation and later)
iPad (3rd generation and later)
iPad mini
iPhone 4S
iPhone 5
iPhone 5C
iPhone 5S

Intuitive iPhone, iPad, iPod Touch, and Android interface

Traxxas Link makes it easy to learn, understand, and access powerful tuning options. Control Drive Effects settings such as steering and throttle sensitivity; steering percentage; braking strength; and throttle trim by simply touching and dragging the sliders on the screen.



Tap and slide to adjust Steering Sensitivity, Throttle Trim, Braking Percent, and more!

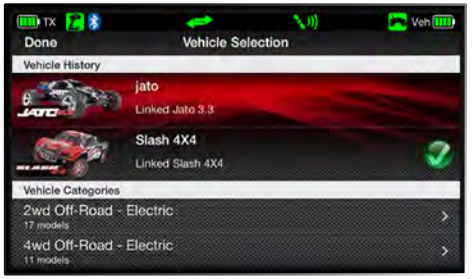
Real-Time Telemetry

When you equip your model with sensors, the Traxxas Link dashboard comes to life showing you speed, battery voltage, RPM, and temperature. Set threshold warnings and log maximums, minimums, or averages. Use the recording function to document your dashboard view, with sound, so that you can keep your eyes on your driving and not miss a single apex.

The customizable Traxxas Link dashboard delivers real-time rpm, speed, temperature, and voltage data.

Manage up to 30 Models with Traxxas Link

The TQi radio system automatically keeps track of what vehicles it has bound to and what settings were used for each--up to 30 models total! Traxxas Link provides a visual interface to name the models, customize their settings, attach profiles, and lock them into memory. Simply choose a model and any previously bound transmitter, power them up, and start having fun.



Traxxas Link Model Memory simplifies organizing your collection of vehicles.

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6200 Traxxas Way, McKinney, TX 75070
1-888-TRAXXAS

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